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E. D. Smith del. Pub.d by R Sweet Chelsea March 1. 1823

# GONOLOBUS hirsutus.

## *Hairy Gonolobus.*

*Natural Order.* ASCLEPIADEÆ. *Brown prodr.* 458.

*GONOLOBUS. Massæ Pollinis* læves, 10, transversæ. *Corolla* subrotata. *Semina* comosa. *Brown Hort. Kew. ed.* 2. *v.* 2. *p.* 82.

Herbæ v. Suffrutices *volubiles.* Folia *opposita, cordata.* Flores *umbellati, axillares v. terminales.*

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G. *hirsutus,* sarmentis petiolisque hirsutissimis, foliis sensim acuminatis utrinque pubescentibus, corollæ laciniis oblongo-ovalibus obtusis, folliculis oblongis muricatis. *Pursh fl. amer. sept. vol.* 1. *p.* 179.

Gonolobus hirsutus. *Mich. flor. amer.* 1. *p.* 119. *Rœm. et Schult. syst. veg.* 6. 11. *Hort. sub. lond. p.* 51. *Steudel nomen. p.* 380.

Vincetoxicum acanthocarpos. *Walt. fl. car.* 104.

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*Root* perennial. *Stems* herbaceous, climbing, thickly clothed with a dense ferruginous pubescence, and longer hairs intermixed. *Leaves* opposite, cordate, hairy on both sides, reticulately veined; lower ones very large, 5 inches long and 4½ wide, roundly cordate, ending abruptly in an acute point, the sinus overlapping at the base: upper leaves narrowly cordate, gradually tapering to a sharp point, and open at the base, about 2 inches long, to scarcely 1 wide. *Petioles* hairy, on the lower leaves long, purple, and furrowed on the upper side; on the upper ones, about half an inch long, and nearly cylindrical. *Umbels* many-flowered. *Peduncles*

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lateral, not so long as the pedicles, densely pubescent, as is the pedicles and calyx and the outside of the corolla. *Calyx* 5-parted, segments short, lanceolate, acute. *Corolla* of 1 petal, rotate, deeply 5-parted, of a lively brown purple colour; segments oblongly-oval, obtuse, spreading; the inside smooth and glossy, the outside pubescent. *Crown* in the centre 10-toothed, with smaller teeth between them. *Stamens* 5. *Pollen masses* 10, smooth. *Germens* and *Stigmas* 2. *Follicles* oblong, hooked at the point, muricate.

For the opportunity of giving a figure of this rare and handsome plant, we are indebted to Mr. Knight, of the Exotic Nursery, King's Road, Little Chelsea, where our drawing was taken in September last, and the fruit was added in October, when it ripened. It is a native of North America, growing spontaneously, according to Pursh, from Pensylvania to Carolina. Mr. Knight has it cultivated on a little slope of peat earth, with some other scarce American plants: from its appearance, we suspect it will grow to the height of ten or twelve feet, if trained up a stick or trellis, where it will flower from June to October, if the weather prove favourable. Pursh mentions it as growing in hedges near rivulets; but we should think it not adviseable to plant it in a moist situation in this country, as its tuberous roots would be apt to suffer from too much wet. The present plants were in a flourishing state in a dry situation.

We have no doubt but it might be increased by dividing the roots, as well as by seeds.

1. The ten-toothed crown of the corolla spread open, showing the smaller teeth between the others. 2. The 5 stamens with the 10 masses of yellow pollen, one on each side of the anther. 3. The 2 germens with their stigmas. 4. Stigmas. 5. The full grown ripe follicle, all magnified, except the last.

E. D. Smith . del . Published by R. Sweet . Chelsea March 1. 1823. J. Haus. Sc.

# DIANTHUS latifolius.

## *Broad-leaved Pink.*

*Natural Order.* CARYOPHYLLEÆ. *Juss. gen.* 299.

*DIANTHUS. Calyx* cylindricus, longus coriaceus, 1-sepalus; basi squamis 4-8. *Petala* 5, unguiculata. *Styli* 2, sæpe recurvi. *Caps.* cylindrica, 1-locularis, apice dehiscens.

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D. *latifolius,* floribus aggregatis racemoso-corymbosis, squamis calycinis lanceolatis acutis demum calycem superantibus, petalis dentatis, foliis oblongo-lanceolatis trinerviis.

Dianthus latifolius, *Willd. enum. v.* 1. *p.* 466. *Link enum. v.* 1. *p.* 418. *Hort. sub. lond. p.* 99. *Steud. nom. p.* 271.

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*Root* perennial. Plant herbaceous, short, tufted. *Leaves* sessile, oblong lanceolate, three-nerved, smooth, of a green opaque colour, margins rough; root leaves from 4 to 5 inches long, and ¾ of an inch wide, bluntish, or ending abruptly in an acute point; stem leaves opposite, shorter and acute. *Flower-stem* obsoletely 4-sided, slightly channelled, smooth. *Flowers* loosely aggregate, racemosely-corymbose, sessile. *Scales of the Calyx* 4, leafy, widely lanceolate, taper-pointed, about the length of the calyx before the flowers expand, afterwards growing to nearly the length of the petals, margins membranaceous near the base. *Calyx* of 1 sepal, tubular, cylindrical, channelled with numerous furrows, 5-cleft; segments taper-pointed, longer than the ungues. *Petals* 5, unguiculate, with broad lamina, which are deeply crenate, of a bright dark red or purple, with a dark circle near the base. *Filaments*

10, inserted in the receptacle. *Anthers* incumbent, 2-celled. *Capsule* smooth, cylindrical. *Styles* 2, smooth. *Stigmas* 2, red and feathered.

This plant, as Mr. Milne noticed to us, is as near as possible intermediate between D. *barbatus* and D. *chinensis*. It differs from the former, in its flowers not being fascicled and double the size, in the scales of the calyx being broader, and in its more compact and shorter growth; from the latter, it differs altogether in habit, but its flowers are very similar; it is a very ornamental herbaceous perennial, and continues to flower the greater part of the sum mer, and till late in autumn; it scarcely attains to a foot in height, oftener being only 6 or 8 inches; but that depends chiefly on the situation where it grows. It delights in a light rich garden soil, in a dryish situation, as it would be apt to rot if the ground was too moist; it is also a very proper plant for ornamenting rock work, in which it would appear to great advantage. It may be increased by cuttings planted under a hand-glass in the open ground, in a shady situation; but they must be planted thinly, or they will damp off; when rooted, they must be hardened to the air by degrees, and may then be planted where they are to remain.

Our drawing was taken at the Nursery of Messrs. Whitley, Brames, and Milne, of Fulham, in September last.

1. Stamens and pistils divested of the corolla and calyx. 2. The 10 stamens spread open, all joined at the base. 3. The 2 styles terminated with 2 simple incurved stigmas. 4. Germen, all natural size.

E. D. Smith del. Published by R. Sweet. Chelsea March 1 1823 J Atais Sc.

# COMMELINA cœlestis.

## *Sky-blue Commelina.*

*Natural Order.* COMMELINEÆ. *Brown prodr.* 268.

*COMMELINA. Perianthium* sexpartitum, inæquale; foliola 3 *exteriora* extus calycina, persistentia: *interiora* petaloidea, unguiculata, decidua, tertia quandoque dissimili v. abortiente. *Stamina* sex (v. 5.) *Antherarum* 3, (nunc 2-4) dissimiles: vix polliniferæ. *Involucrum* monophyllum, conduplicatum v. cucullatum, persistens, capsulas includens.

Herbæ *sæpe diffusæ.* Folia *vagina integra.* Pedunculus *apice fasciculatim multiflorus, floribus hermaphroditis: altero exteriore unifloro masculo sæpius stipatus.* Brown prodr. 269.

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C. *cœlestis,* corollis æqualibus, involucris cordatis acuminatis conduplicatis, racemis multifloris, pedunculis pubescentibus, pedicellis glabris, foliis oblongo-lanceolatis sessilibus glabris: margine undulatis, vaginis ciliatis, caule erecto.

Commelina cœlestis. *Willd. enum. v.* 1. *p.* 69. *Link enum. v.* 1. *p.* 61. *Hort. sub. lond. p.* 12. *Rœm. et Schult. syst.* 1. *p.* 538. *Steud. nom. p.* 214.

Commelina tuberosa. *Bot. mag.* 1695.

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*Root* perennial, composed of a fascicle of long subcylindrical tubers. *Stems* several from the same root, erect, smooth, slightly furrowed, not much branched. *Leaves* sessile, sheathing the stem, oblongly lanceolate, taper-pointed, undulate, smooth but fringed at the base, 7-nerved. *Sheaths* fringed. *Peduncles* terminal and axillary, densely pubescent, scarcely as long as the leaf. *Involucre* cordate, taper-pointed, pubescent, doubled inwards so as to cover the flowers before they expand. *Raceme* many-flowered, inclosed in the involucre. *Pedicles* smooth, bent forward before the flower expands, erect when expanded, afterwards bent backwards.

*Flower* 6-parted, of a beautiful sky-blue, 3 outer segments calyx-like, persistent; 3 inner ones petal-like, unguiculate, deciduous. *Stamens* 6. *Anthers* 3 perfect, and 3 barren; fertile ones incumbent, oblong, 2-celled; sterile ones of a different shape, divided into 4 parts, yellow. *Style* smooth, longer than the stamens. *Stigma* slightly 3-lobed.

This ornamental plant has been sometimes confused with C. *tuberosa*, from which it differs in several respects; this having smooth leaves and hairy peduncles, whereas C. *tuberosa* has hairy leaves and smooth peduncles; we are not certain whether C. *tuberosa* will prove to be so hardy as our present plant; we hope to ascertain that the present season. Plants raised from seeds early in spring, if brought forward with a little artificial heat, and then planted in the open ground, will flower in autumn; as soon as their tops begin to die away, the roots must be taken up, and kept in a little dry earth or sand, out of the reach of frost, till the following spring, in the same manner as Dahlias, or other tuberous roots. The latter part of April, or the beginning of May, according as the season suits, they must be planted in the ground; or they might be brought forward earlier in a hot-house, or green-house, or hot-bed frame, and from thence be planted into the flower borders, where they will continue to bloom for a considerable time, and ripen their seeds; the common garden soil will suit them very well, the lighter and more sandy the better.

Our drawing was taken in September last, at the Nursery of Mr. Colvill, King's Road, Chelsea.

1. The fascicle of tuberous roots, natural size. 2. Germen. 3. Style and 3-lobed stigma. 4. Three fertile stamens. 5. Three barren ditto, divided into 4 lobes, all slightly magnified.

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# RUDBECKIA serotina.

## *Late-flowering hispid-stalked Rudbeckia.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.
*RUDBECKIA. Flores* radiati, ligulis neutris. *(Involucrum)* duplici serie polyphyllum subæqualis patens. *Semina* apice marginata, margine membranaceo 4-dentato. *Receptaculum* (paleaceum,) conicum.

Herbæ *alternifoliæ, quaedam asperæ;* Flores *sæpe terminales;* discus *interdum subfuscus;* ligulæ *quarumdam luteo-croceæ, in* R. purpurea (et serotina) *purpurascentes.* Juss. gen. 189.

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R. *serotina,* caule hispido, foliis inferioribus lato-ovatis basi attenuatis remote dentatis asperrimis: caulinis lanceolato-ovatis utrinque acuminatis subintegerrimis, radiis patentibus apice tridentatis.
Rudbeckia purpurea, β serotina. *Nuttal.*
Rudbeckia speciosa. *Hortulanorum. Link enum. v.* 2. *p.* 353.

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*Root* perennial. *Stems* several from the same root, from 2 to 5 feet high, branching, thickly clothed with short stiff hairs. *Leaves* very rough; root ones very large, widely ovate, tapering at both ends, distantly and unequally toothed, from 3 to 5-nerved: stem leaves much narrower, lanceolately ovate, entire or scarcely toothed. *Petioles* on the root leaves very long, sheathing at the base, deeply channelled on the upper side, and bluntly keeled on the lower. *Peduncles* longer than the leaves, furrowed, much swollen near the flower, thickly clothed with short stiff hairs. *Involucre* many-leaved; scales lanceolate, acute, concave, ciliate, reflexed, in three tiers one above the other, the lower ones generally the longest. *Receptacle* conical, chaffy. *Chaff* longer than the florets of the disk, very rigid, the lower part keeled and green, the point cartilaginous, bluntish, of a brownish horn colour. *Rays* barren, broadly ligulate, narrow at the base, point 3-toothed, strongly

nerved underneath, and furrowed on the upper side, of a light purple colour; in the floret is the rudiment of two hair-like stigmas. *Florets of the disk* tubular, 5-toothed, much shorter than the chaff. *Stamens* 5, *filaments* distinct. *Anthers* joined into a tube, exserted above the floret, scarcely the height of the chaff. *Pollen* bright yellow. *Style* green, smooth. *Stigmas* 2, purple, reflexed, feathered at the point. *Seeds* angular, crowned with a 4-toothed pappus, and between the 4 teeth are several other smaller ones.

This stately herbaceous perennial is a native of North America, and has been introduced to our gardens about six or seven years since, where it has generally passed under the name of *R. speciosa*; by which title we also find it recorded in Professor Link's Enumeratio, but without a description, as it is said not to have flowered in their garden; we have no doubt but it is the *R. purpurea* β *serotina* of Nuttal, though he describes the rays as bifid, which in ours is 3-toothed. Mœnch has separated *R. purpurea* from the other species, under the generic name of *Echinacea*; should it be hereafter confirmed as a distinct genus, our plant will rank with it as a second species: their rigid chaff and habit altogether is certainly very different from the others.

The present plant, in strong soil, will sometimes attain the height of 5 feet; in poorer soil, it will be considerably less. It begins flowering in July, and will continue in bloom, if the season be mild, till the middle of November. It will thrive well in any common garden soil, and increases freely by seeds, or dividing the roots.

Our drawing was taken at the Nursery of Mr. Colvill, in September last.

1. Barren floret of the ray, natural size. 2. Scale of the chaff. 3. Seed with its toothed pappus. 4. Floret of the disk. 5. The same cut open, to show its 5 distinct filaments and connected anthers. 6. Style and 2 stigmas, all magnified.

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E.D. Smith del. Pub.d by R. Sweet, Chelsea April 1.st 1823 J. Mais. sculp.

# ŒNOTHERA macrocarpa.

## *Large-capsuled Œnothera.*

*Natural Order.* ONAGRARIÆ. *Jussieu.*

*ŒNOTHERA. Calyx* 4-fidus, tubulosus. *Corolla* 5-petala; petalis integris. *Stamina* 8; filamentia omnia fertilia. *Stigm.* 4-fidum. *Caps.* 4-locularis, 4-valvis, infera. *Sem.* nuda, receptaculo centrali, 4-gono affixa.

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Œ. *macrocarpa*, caule diffuso ramoso, foliis petiolatis elliptico-lanceolatis acutis mucronatis glanduloso-denticulatis integerrimisve margine nervisque sericeo-albidis, petalis obcordatis venosis, capsulis quadrialatis subsessilibus.

Œnothera macrocarpa. *Pursh Flor. Amer. Sept. supp. p.* 734. *excl. syn. Bot. mag.*

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*Root* perennial. *Stem* of a woody texture at the base, branching. *Branches* spreading, covered with a short silky pubescence, furrowed, thickly clothed with leaves. *Leaves* petioled, elliptically lanceolate, acute, mucronate, entire, or sometimes distantly toothed with small glandular teeth; margins thicker, of a horny substance, and with the nerves clothed with a whitish silky down. *Petioles* downy, about three times shorter than the blade of the leaf, convex on the upper part, and rounded on the lower. *Capsule* below the calyx, thickly clothed with white silky hairs, 4-winged; wings growing to a great size before the capsules ripen. *Calyx* tubular, tube in our specimen four inches long, of a greenish white; limb spathaceous, irregularly spotted with pale purple, sericeous, split on one side for the expansion of the petals, and divided into 4 segments at the base, which are joined above the middle and end in 4 subulate points. *Petals* 4, the largest in

the genus, inserted in the calyx, obcordate, but ending in a point, many-nerved, margins slightly toothed, of a light yellow colour. *Stamens* 8, also inserted in the calyx. *Filaments* dilated at the base, and narrowed upwards, about half as long again as the anthers. *Anthers* linear, 2 celled, bursting in front to discharge the pollen, which is pale yellow. *Style* smooth, gradually thickening upwards. *Stigma* 4-cleft, segments cylindrical, blunt, spreading.

The present ornamental plant produces the largest flowers of any species belonging to the genus; it has been confused with Œ. *missourensis* of the *Botanical Magazine, pl.* 1592, both by Pursh and Nuttall. Plants of both species are now growing in the Nursery of Mr. Colvill, by the side of each other, where they have been cultivated for several years, without varying in the slightest degree; they both produce perfect seeds, and the young plants raised from them always continue true to their species. The difference in the two when seen growing together, is very striking; the leaves of Œ. *macrocarpa* being elliptical, or elliptically lanceolate, tapering at both ends; of Œ. *missourensis* linearly lanceolate, the stems and branches of the latter are longer and slenderer, and the flowers much smaller; but they are both very ornamental plants; the Œ. *alata* of Nuttall, belongs to the latter species, judging from his description.

This plant thrives well in a rich light soil, and will grow to the height of a foot, or 18 inches, if supported by a stick; but its more natural manner of growth is to trail on the ground; it is very well suited for ornamenting rock-work, but requires room for its branches to spread; it may be readily increased by seeds; or young cuttings, planted thinly under a hand-glass, will soon strike root.

1. Stamen. 2. Germen, and the lower part of the style. 3. Upper part of the style and 4-cleft stigma, all natural size.

E. D. Smith. del. et sculpt. Published by R. Sweet Chelsea Apr 1. 1823

# CUSCUTA verrucosa.

## *Warted-calyxed Nepaul Cuscuta.*

*Natural Order.* CONVOLVULACEÆ. *Brown prodr.* 481. Sect. III. Embryo acotyledoneus.

*CUSCUTA. Calyx* 5-raro 4-fidus. *Corolla* globoso-urceolata, limbo 5-fido, marcescens. *Ovarium* 2-loculare, loculis dispermis. *Capsula* bilocularis, circumscissa.

Herbæ *aphyllæ, volubiles, parasiticæ.* Flores *aggregati, subcapitati v. spicati, unibracteati.* Squamæ 5, *epipetalæ, infra filamenta, iisdemque oppositæ, raro deficientes.* Brown prodr. 491.

C. *verrucosa,* digyna, stigmatibus lanceolatis obtusis basi dilatatis carnosis, squamis epipetalis fimbriato-laceris, antheris subsessilibus, calycis 5-fidi laciniis rotundatis verrucosis.

*Parasitical* on various plants. *Stems* succulent, twining, much branched. *Branches* smooth and glossy, of a brownish green colour, or sometimes purple, irregularly marked with purple linear spots, extending to a great distance, and laying hold of every branch within their reach. *Racemes* numerous, often 3-flowered, but sometimes 9 or 10-flowered. *Flowers* white with short succulent pedicles, very fragrant. *Bractea* 1, sessile, ovate, obtuse, concave, sheathing the pedicle. *Calyx* 5-cleft, segments roundish, succulent, persistent, thickly covered with small purple warts. *Corolla* urceolate, border 5-cleft, divisions blunt, reflexed; *scales* 5, inserted into the base of the corolla, much fringed or lacerated. *Anthers* 5, nearly sessile, inserted into the tube just below the divisions of the border, and extending a

little above the mouth. *Stigmas* 2, nearly sessile, lanceolate, obtuse, widened at the base, succulent. *Germen* warted.

This curious parasitical plant was raised last Spring, at the Nursery of Mr. Colvill, from seeds sent him by Mr. George Potter, from the Botanic Garden at Calcutta, where they had been received from Nepaul; soon after the plants came up, they died off at the bottom, the tops catching hold of the nearest plant within their reach, and soon growing and spreading themselves in all directions, twining round all the young shoots and footstalks of the leaves, where they thrust out a kind of teeth, by which they inserted themselves into the plant. The more juicy and succulent the plant is, the stronger they grow; the strong growing species of Pelargonium suits them admirably.

The plants raised in Spring began flowering in September, and soon became entirely covered with flowers of a most delightful fragrance, somewhat resembling a mixture of violets and cowslips; and a plant that had taken hold of the ivy by Mr. Colvill's shop, soon covered a great part of it, where it continued in flower till the very severe frost, and ripened its seed. Mild Winters it would survive very well, as it stood several severe frosts without being injured. It might be treated as an hardy annual, or may be kept alive through the Winter, in a frame or greenhouse.

1. Calyx. 2. Corolla spread open, showing the 5 stamens, and 5 fringed scales. 3. One of the scales separated from the corolla. 4. Germen, terminated by 2 fleshy stigmas.

E.D.Smith. del. Pub.d by R. Sweet, Chelsea April 1.st 1823. I. Alais sculp.

# CHRYSANTHEMUM sinense, *var.* involutum.

## *Curled Lilac Chinese Chrysanthemum.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.

*CHRYSANTHEMUM. Flores* radiati. *Involucrum* hemisphæricum, imbricatum; squamis marginalibus membranaceis. *Recept.* nudum. *Pappus* nullus s. marginatus.

(Suffrutices *aut* herbæ;) caulis *simplex aut ramosus;* folia *simplicia, (lobata) aut pinnata;* flores *terminales, solitarii aut corymbosi.* Juss. gen. 183.

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C. *sinense,* foliis petiolatis sinuato-lobatis dentatis mucronatis subtus incanis stipulatis, receptaculo conico-convexo paleaceo v. nudo.

Chrysanthemum sinense. *Sabine Mss.*

Chrysanthemum purpureum. *Pers. syn.* 2. *p.* 461. *Steud. nom. p.* 193.

Chrysanthemum indicum. *Curtis magaz.* 327. *Hort. Kew. ed.* 2. *v.* 5. *p.* 95. non Linn.

Anthemis grandiflora. *Ramat. in jour. d. hist. nat.* 2. *p.* 234. *Desfont. arb.* 1. *p.* 315.

Anthemis artemisiæfolia. *Willden. sp. pl.* 3. *p.* 2184. *Enum.* 911. *Hort. sub. lond.* 192. *Link. enum.* 2. *p.* 346.

*involutum,* floribus corymbosis confertis magnis lilacinis; medio pallidioribus, radiis apice involutis, receptaculum globosum paleaceum.

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*Root* perennial, tufted. *Stems* numerous, woody at the base, from 2 to 4 feet high, more or less branched, obtusely angular, thickly clothed with a dense white tomentum. *Branches* spreading, and terminated with a compact corymbus of flowers. *Leaves* flat, sinuately 5-lobed, densely tomentose, particularly on the under side, much dotted; lower ones about 4 inches long, to $2\frac{1}{2}$ broad, deeply lobed, and unequally toothed; lobes and teeth rounded,

very obtuse; upper leaves much smaller, and pointed; lobes and teeth sharply acute. *Petioles* slightly winged, shorter than the leaf, deeply channelled on the upper side, and bluntly keeled on the lower; densely tomentose. *Stipules* of various forms, generally 2 or 3-forked; segments lanceolate, on the large leaves obtuse; on the smaller ones acute, sometimes toothed. *Peduncles* tomentose, gradually increasing in size upwards; the lower ones longest. *Involucre* hemisphærical, composed of numerous scales over-lapping each other. *Scales* lanceolate, with brown membranaceous margins. *Receptacle* globular, chaffy, particularly on the upper part. *Chaff* spatulate, membranaceous, of a light brown colour, and curved inwards like the rays. *Flowers* full, composed wholly of rays, without florets in the centre. *Rays* open, not tubular, twisted or curled, the points curved inwards; outer ones of a dark lilac, inner ones much paler. *Stamens* none. *Style* slender, even with the tube of the ray. *Stigmas* 2, recurved.

One of the beautiful new varieties of Chinese Chrysanthemum, lately introduced into the Garden of the Horticultural Society, from whence it is now distributed into many other collections. We believe the Society's collection now contains nearly thirty different varieties, many of which are very handsome; we have drawings of several, which will be published in our future numbers.

The introduction of so many beautiful varieties of the Chinese Chrysanthemums is a great acquisition to our gardens, particularly as they begin flowering in Autumn, after most other flowers are overblown; they will grow freely in any common garden soil, but should be planted in a south border, to have them flower well; they may be increased by dividing at the root, or by cuttings planted under hand-glasses.

1. Floret of the ray. 2. Chaffy receptacle divested of the calyx. 3. Scale of the chaff flattened out.

E.D. Smith del et sculp. Pub. by R. Sweet Chelsea April 1st 1823

# PRIMULA Palinuri.

## *Unequal-bracted Primrose.*

*Natural Order.* PRIMULACEÆ. *Brown prodr.* 427.

*PRIMULA. Calyx* tubulosus 5-dentatus persistens. *Corolla* tubus cylindricus; ore patulo; limbo emarginato. *Stamina* 5. *Stigma* 1, globosum. *Capsula* 1-locularis; ore 10-fido.

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P. *Palinuri*, foliis obovatis crenatis glabris, scapo foliis altiore laterali, umbella nutante, involucro inæquali pedunculos subæquante, corollæ limbo margine incurvo.

Primula Palinuri. *Willd. enum. v.* 1. *p.* 191. *Link enum. v.* 1. *p.* 158. *Hort. sub. lond. p.* 32. *Rœm. et Schult. syst.* 4. *p.* 138.

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*Subcaulescent. Stem* short and stiff, erect. *Leaves* sessile, obovate, slightly undulate, deeply crenate, with rounded points, and attenuate at the base, of a greasy appearance and very soft, but scarcely viscous, about 2 inches broad, and 4½ long; when rubbed, emitting a powerful fragrance resembling Chamomile or Wormwood. *Scape* higher than the leaves, viscid, pubescent. *Umbel* many-flowered, nodding. *Involucre* of several unequal leafy bractes, some longer, others about the length of the pedunclés. *Bractes* obovate, undulate, entire. *Peduncles* cylindrical, a little longer than the calyx, thickly covered with a white powder. *Calyx* 5-toothed, densely clothed inside and out with a white mealy powder. *Corolla* tubular, tube nearly twice the length of the calyx; limb scarcely half the length of the tube, emarginate; sides folded inwards, of a bright yellow colour, slightly farinaceous, with a golden circle at the mouth. *Stamens* 5, oblong,

sessile, inserted about half way up the tube of the corolla. *Germen* globular, farinaceous. *Style* smooth, even with the mouth of the corolla, but lengthening after the flower is over-blown. *Stigma* capitate, point slightly depressed.

The plant from which our drawing was taken, was received last Summer, by Mr. Colvill, from the Botanic Garden at Berlin; soon after its arrival, it flowered; but not so strong as it did the second time, which was the latter end of December, when our drawing was made. It had been protected under a frame, to preserve the flower; but the plant itself is quite hardy. It is nearly related to P. *Auricula*, but is a much stronger growing upright plant; the flowers are much smaller, not unlike the Cowslip, which it also resembles in fragrance. It may be cultivated successfully, by planting it in a dry border in a light loamy soil; or it may be grown in a pot, in a mixture of sandy loam and peat; and is readily increased by seeds, or by suckers from the root.

1. Calyx. 2. Corolla spread open, showing the insertion of the stamens. 3. Stamen. 4. Germen, Style, and Stigma, natural size.

E. D. Smith. del

Pub by R Sweet Chelsea May 1 1823

A. Bailey sculp.

# CYCLAMEN vernum.

## *Vernal Cyclamen.*

*Natural Order.* PRIMULACEÆ. *Brown prodr.* 427.

*CYCLAMEN. Calyx* 5-fidus. *Corolla* rotata, reflexa, tubo brevissimo: fauce prominente. *Stamina* 5; antheræ conniventes. *Stigma* 1. *Bacca* tecta capsula. *Scapi* 1-*flori*; *flores nutantes.*

C. *vernum.* subcaulescens, foliis cordatis subcrenulatis apice emarginatis; sinu subclauso, corollæ laciniis oblongo-ovatis, stylo exserto.

Cyclamen vernum minus orbiculato folio inferne rubente, flore minore ruberrimo. *Mor. hist.* Lesser spring Sowbread with roundish leaves of a reddish colour underneath, with small deep red flowers. *Miller's Gard. dict. ed.* 3. Cyclamen *No.* 4.

Cyclamen vernale. *Steud. nomen. p.* 247.

Cyclamen Coum. *Loddiges' Bot. cab. no.* 108. *nec aliorum.*

*Root* tuberous, round and flat, not unlike a Turnep; of a reddish brown colour. *Stems* short, rough, branched, and clothed with numerous leaves and flowers. *Leaves* cordate, concave, slightly crenulate, emarginate, upper side green, marked with an unequal circle of white, underneath of a reddish purple; sinus overlapping at the base. *Petioles* longer than the leaves, nearly cylindrical, crooked, very slender near the base. *Peduncles* reaching a little above the leaves, gradually tapering upwards, 1-flowered. *Flowers* nodding, of a rosy red colour, darker near the mouth, where there is a white circle, inside striped with red. *Calyx* 5-cleft, pubescent; segments lanceolate, acute, slightly keeled. *Corolla* rotate, reflexed; segments ovate, or

oblong; margins curved inwards. *Stamens* 5, inserted into the base of the tube. *Filaments* short and flat, dilated at the base. *Anthers* attached to the filaments at the base, 2-celled, sharp-pointed, fringed, included in the tube. *Germen* globular, smooth. *Style* smooth, tapering upwards, exserted a little above the mouth. *Stigma* small, flat.

The present beautiful little plant seems to have been almost entirely overlooked by Botanists, since the time of Miller. In Martyn's edition of Miller's Dictionary, it is recorded as a variety of C. *persicum*; to which it certainly is scarcely at all allied, except in the form of the leaves, and the white circle on their upper side. The flowers are nearly the same as in C. *Coum.*; but the style is exserted a little beyond the mouth; the plant is altogether more robust, and the leaves and flowers are produced on a kind of short flat stem that branches from the tuber, not directly from the crown of the tuber, as in C. *persicum*, and C. *Coum.* The leaves are also cordate, and the sinus frequently overlapping at the base; in C. *Coum.* they are reniform, and have a large opening at their base, and are entirely green on their upper surface.

It will succeed well in a warm border, in a light sandy soil; or it may be grown with advantage in small pots, in an equal mixture of loam, peat, and sand; it can then be protected under a frame in Winter, during which time it requires very little water. The only method of propagating it, is from seeds, which ripen plentifully, if care be taken to scatter some pollen on the stigma when in full bloom.

Drawn at the Nursery of Mr. Colvill, the beginning of March last.

1. Calyx. 2. Corolla spread open, showing the insertion of the Stamens, natural size. 3. One of the Anthers magnified, burst on each side. 4. Germen, Style, and Stigma magnified.

E. D. Smith. del

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A. Bailey. sculp

# COREOPSIS lanceolata.

## *Spear-leaved Coreopsis.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2, 103.

*COREOPSIS.* (Radiata; Pappus aristatus; Receptaculum paleaceum.) *Involucrum* polyphyllum, foliolis a receptaculi paleis vix aut parum distinctis. *Recept.* planiusculum v. leviter convexum. *Flosc. disci* hermaphroditi, fertiles; *radii* feminii s. neutris; ligulis disco transverso æqualibus s. longioribus, steriles. *Pappus* 2-3-aristatus; aristis glabris s. retrorsum scabris. *Gært. sem.* 2, 457.

Herbæ *erectæ*; folia *sæpius opposita, in quibusdam multifida*; flores *axillares et sæpius terminales*; *ligulæ quarumdam albidæ*. *Juss. gen.* 188.

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C. *lanceolata*, foliis lanceolatis integerrimis ciliatis basi in petiolum attenuatis, pedunculis elongatis nudis, radiis 4-dentatis, seminibus alatis scabris apice bidentatis emarginatis.

Coreopsis lanceolata. *Willd. sp. pl.* 3. *p.* 2256. *Mich. flor. amer.* 2. *p.* 137. *Pursh. fl. amer.* 2. *p.* 567. *Pers. syn.* 2. *p.* 478. *Hort. Kew. ed.* 2. *v.* 5. *p.* 135.

Bidens succisæ folio, radio amplo laciniato. *Dill. elth.* 55. *t.* 48. *f.* 56.

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*Stems* several from the same root, erect, branching. *Leaves* opposite, broad lanceolate, entire, smooth, slightly fringed, bluntish, base attenuated down the petiole; fringed at the base with long spreading white hairs. *Peduncle* long, naked, bluntly angular, furrowed, smooth, 1-flowered. *Involucre* of two series, many-leaved; scales of the outer series 9, leaf-like, lanceolate, bluntish, reflexed; of the inner 9, membranaceous, oblong, pointed. *Receptacle* convex, warted. *Chaff* subulate, channelled, about the length

of the florets. *Rays* very broad, barren, cuneate, toothed with 4 large unequal teeth, which are bluntly and unequally crenate, or slightly notched, strongly nerved underneath, and furrowed on the upper side, flat when first expanded, afterwards rolled back at the edges, of a bright yellow colour. *Florets of the disk* numerous, tubular, funnel-shaped, hermaphrodite, 5-toothed, nerves alternating with the teeth. *Stamens* 5; filaments distinct; anthers connected, their points exserted. *Style* smooth, slender, half as long again as the floret. *Stigmas* 2, revolute, fringed. *Seeds* oblong, slightly winged with rough edges. *Pappus* of 2 short fringed teeth.

Our drawing was taken from a fine plant, sent by Mr. Shepherd from the Botanic Garden at Liverpool; an establishment, we are informed, particularly rich in hardy perennial herbaceous plants. It is a native of North America; and, according to Pursh, is found growing in mountainous situations near Virginia, and Carolina, flowering from August to October; with us it flowers about the same time; and, if cultivated in rich light soil, will attain the height of 2 feet, or upwards. It is rather more tender than some other species of the genus, and prefers a dryish situation; it would be well to place some of them in a frame in Winter, where they can be protected from the severe frost; they can then be turned out in the open ground in Spring, and will succeed very well. They are readily increased by dividing at the root; or cuttings, planted under a hand-glass, will soon strike root.

1. Barren floret of the ray. 2. Floret of the disk. 3. The same spread open, showing the 5 connected anthers. 4. Floret spread open, showing the nerves alternating with the teeth. 5. Style terminated with 2 fringed stigmas. 6. Unripe seed, terminated with 2 fringed teeth. 7. Scale of the chaff.

E. D. Smith del — Pub. by R. Sweet Chelsea May 1 1823 — A. Bailey sc.

# SOLDANELLA montana.

## *Mountain Soldanella.*

*Natural Order.* PRIMULACEÆ. *Brown prodr.* 427.

*SOLDANELLA. Calyx* 5-partitus. *Corolla* campanulata, ore lacero multifido. *Stamina* 5, filamentis antheras adnatas sagittatas superantibus. *Stigma* 1. *Capsula* apice multivalvis.

S. *montana,* foliis reniformibus crenato-repandis reticulato-venosis; petiolis hirsutis, scapo multifloro.

Soldanella montana. *Willd. enum.* 1. *p.* 192. *Link enum.* 1. *p.* 158. *Rœm. et Schult. syst.* 4. 132. *Hort. sub. lond. p.* 33.

Soldanella Clusii. *Botan. magaz.* 2163.

***Root*** perennial, tufted. ***Stem*** none. ***Leaves*** reniform, waved, slightly crenate, reticulately veined, sinus generally overlapping at the base. ***Petioles*** nearly cylindrical, gradually tapering upwards, densely clothed with short white hairs. ***Scape*** slightly pubescent, gradually tapering upwards; from 4 to 8-flowered. ***Bractes*** 4 to 8, 1 at the base of each pedicle; unequal in length, the uppermost longest, smooth, ligulately-linear, obtuse. ***Pedicles*** very pubescent, unequal in length. ***Flowers*** nodding, of a pale blue colour. ***Calyx*** 5-parted, segments lanceolate, bluntish, slightly wrinkled. ***Corolla*** campanulate, mouth multifid, unequally and deeply lacerate. ***Stamens*** 5, inserted in the mouth of the corolla. ***Filaments*** flat and reaching beyond the anthers, terminating in a simple subulate point. ***Anthers*** joined to the front of the filament, 2-celled. ***Pollen*** white, farinaceous. ***Germen*** smooth, with 5 gland-like pellucid warts round

it. *Style* smooth, gradually tapering towards the point, longer than the corolla. *Stigma* a small simple point.

A beautiful little alpine plant, introduced into our Gardens about seven years back. It differs from S. *alpina*, in being altogether more robust; in bearing more flowers on each scape; the segments of which are larger, and spread more flatly open; the termination of the filament beyond the anther, is simple and subulate, and the petioles are densely hairy. In S. *alpina*, the scape is few-flowered; the flowers are more finely fringed, and bell-shaped; the filament beyond the anthers terminates in a bifid point; the leaves are narrower, more entire, and the petioles smooth.

Our drawing was taken from a plant at the Garden belonging to the Apothecaries Company, at Chelsea, in March last. When cultivated in the open ground, it should be planted in a dry border, in peat soil, which it prefers; or it may be grown in rock-work, where it must also have peat soil, or it will not thrive so well; it may also be cultivated, with advantage, in small pots, and can then be protected in a frame in severe weather. It is increased by dividing at the root, or by seeds; if by the latter method, they should be sown as soon as ripe, and planted off into other pots while in their seed leaf; they will then not miss their removal.

1. Calyx. 2. Corolla spread open, showing the insertion of the Stamens. 3. Back view of the Stamen magnified. 4. Front view of ditto. 5. Germen, Style, and Stigma magnified.

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# HYOSCYAMUS orientalis.

## *Oriental Henbane.*

*Natural Order.* SOLANEÆ. *Juss. gen.* 124.

*HYOSCYAMUS. Calyx* tubulosus 5-fidus. *Corolla* infundibuliformis, obtusa. *Stamina* 5, inclinata. *Stigma* capitatum. *Capsula* operculata, 2-locularis. Herbæ; folia *floralia sæpe geminata*; flores *solitarii axillares v. aggregati terminales, sæpe secundi.*

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H. *orientalis*, foliis ovatis repando-dentatis integerrimisve acutis pubescentibus, floribus terminalibus aggregatis; calycibus oblongis pubescentibus, caule villoso.

Hyoscyamus orientalis. *Marsch. Bieb. flor. taur. cauc. v.* 1. *Rœm. et Schult. syst.* 4. *p.* 312. *Link enum. v.* 2. *p.* 178.

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*Root* perennial. *Stems* several, springing from the same root, simple, erect, slightly angular, furrowed, thickly clothed with unequal villous hairs. *Leaves* ovate, repandly-dentate, or entire, attenuated down the petiole, pointed, glossy; veins hairy. *Petiole* downy, shorter than the blade of the leaf. *Flowers* terminal, aggregate, trichotomously-corymbose, of a brownish lilac colour. *Bractes* ovate, obtuse, downy. *Peduncles* scarcely as long as the calyx, villous. *Calyx* oblong, 5-toothed, ribbed, downy. *Corolla* funnel-form, 5-cleft, ribbed, downy; segments obtuse. *Stamens* 5, inserted into the tube. *Filaments* villous at the base, and smooth upwards; at first, included in the tube, but, at length, growing beyond the mouth. *Anthers* sagittate, incumbent, 2-celled. *Pollen* bluish, or ash-coloured. *Germen* slightly hairy, or sometimes smooth. *Stigma* capitate, emarginate.

This pretty Spring flowering plant was raised from seed, received from Moscow, by Messrs. Whitley, Brames, and Milne, at Fulham, in the year 1818. It is nearly related to H. *physaloides*, but is of much stronger growth, and thickly covered with pubescence, and its anthers are exserted beyond the mouth of the corolla; whereas H. *physaloides* is quite smooth and shining, its flowers are of a beautiful dark purple, and its anthers are included within the mouth; they both are in flower at the same time, and are very desirable by being so early in bloom.

The present plant is a native of Iberia; it is quite hardy, and thrives well in any common garden soil, flowering the latter end of March, and beginning of April, and continuing in bloom a considerable time; in poor soil it will scarcely exceed a foot in height, but in stronger soil it will attain 18 inches, or more. It is increased by dividing at the root, or by seeds.

Drawn at the Nursery of Messrs. Whitley and Co. the beginning of last month.

1. Calyx. 2. Front view of the Corolla spread open to show the insertion of the Stamens. 3. Back view of the same in a more advanced state, in which the Anthers are exserted. 4. Stamen. 5. Germen, Style, and Stigma.

A Bailey sc

# HYOSCYAMUS physaloides.

## *Purple-flowered Henbane.*

*Natural Order.* SOLANEÆ. *Juss. gen.* 124.
*HYOSCYAMUS. Supra fol.* 12.

H. *physaloides*, foliis ovatis acutis repandis integerrimis glabris, floribus terminalibus, calycibus inflatis angulatis glabris, staminibus corolla parum brevioribus.

Hyoscyamus physaloides. *Willden. sp. pl.* 1. *p.* 1012. *enum.* 229. *Pers. syn.* 1. *p.* 217. *Botan. magaz.* 852. *Hort. Kew. ed.* 2. *v.* 1. *p.* 389. *Rœm. et Schult. syst.* 4. *p.* 312.

*Root* perennial, herbaceous. *Stems* several from the same root; angular, smooth and glossy, of a pale purple colour, seldom attaining a foot in height. *Leaves* alternate, ovate, acute, entire, repand, attenuated down the petiole, smooth and glossy, purple whilst young, afterwards changing to green on the upper side, and purplish underneath. *Petioles* shorter than the leaves, smooth and shining. *Flowers* terminal, paniculately corymbose, of a bright bluish purple. *Bractes* of various sizes, some as long as the peduncles, others not half the length, lanceolate, acute, concave. *Peduncles* purplish, about half the length of the calyx, with a few hairs scattered on them here and there. *Calyx* 5-cleft, tubular, inflated, 10-angled, reticulately veined, smooth; segments fringed. *Corolla* of a bright blue purple, funnel-form; tube slender at the base, gradually widening upwards, inside thickly clothed with hairs at the base of the filaments; border 5-cleft, spreading, segments blunt and rounded.

*Stamens* 5, inserted in the tube; *filaments* hairy at the base, and smooth upwards, of a pale purple colour; *anthers* incumbent. *Pollen* white. *Germen* pyramidal, smooth, green at the base, and purple at the point. *Style* smooth, purple. *Stigma* white, capitate, emarginate.

One of our handsomest early Spring flowering plants; a native of Siberia, seldom to be met with in any collection, though certainly deserving of cultivation much more than a great many that are more generally cultivated; we suspect the reason of this is, from its being so little known; and have, therefore, given a fine specimen of it in our figure, that it may no longer remain in obscurity. It is a very hardy plant, thriving well in a rich light soil, and continues in flower for several weeks, beginning to blossom in March, and sometimes lasts in bloom till the beginning of May. It may be increased by dividing at the root, or by cuttings planted under a hand-glass; it also produces ripe seeds, which should be sown as soon as gathered.

Drawn at the Nursery of Mr. Colvill, in April last.

1. Calyx, showing its fringed segments. 2. Corolla. 3. The same split open, showing the insertion of the stamens, natural size. 4. Stamen. 5. Germen, Style, and Stigma, magnified.

J. D. Smith del. Pubd by R. Sweet Chelsea June 1 1823 A. Bailey sculp.

# CHRYSANTHEMUM sinense, *var*. fasciculatum.

*Superb Clustered Yellow Chrysanthemum.*

*Natural Order.* COMPOSITÆ. *Adanson Fam.* 2. 103.
*CHRYSANTHEMUM. Supra fol.* 7.

Chrysanthemum sinense. *Supra fol.* 7.
*fasciculatum,* floribus plenis fasciculato-corymbosis; radiis tubulosis luteis apice vix expansis, receptaculum nudum conico-globosum punctatum.

***Root*** perennial, tufted. ***Stems*** ligneous, erect; in our specimen, about 3 feet high, slightly branched, and terminated with a fasciculated corymbus of flowers; ***branches*** a little flexuose, obtusely angular, of a purplish brown colour, thickly clothed with a dense white tomentum. ***Leaves*** of various forms, punctate, sinuately-lobate, and toothed with unequal bluntish teeth, of a dull green on the upper side, and clothed with a dense white tomentum on the lower; segments wide apart, blunt, and rounded at the ends, terminated in a very short point; lower ones about 4 inches long, to 3 broad. ***Petioles*** winged, channelled on the upper side, and bluntly keeled on the lower. ***Stipules*** variable, oblong, obovate or spatulate, obtuse, sometimes toothed. ***Peduncles*** short, densely tomentose. ***Involucre*** hemisphærical, composed of numerous oblong or lanceolate membranaceous scales, overlapping each other. ***Flowers*** double, bright yellow. ***Receptacle*** naked, dotted, between conical and globular. ***Rays***

all quilled, scarcely expanded at the points, except here and there one expanded nearly half way down. *Florets of the disk* none. *Stamens* none, or barren. *Style* and *Stigmas* short and slender, imperfect.

Our figure represents another beautiful variety of the Chinese Chrysanthemum, lately introduced into the Garden of the Horticultural Society, and from thence distributed to other collections; in our opinion, the present variety is the handsomest of all the yellow ones, and differs from all others in its compact cluster of flowers; it is one of the varieties that is most proper for planting out in the open ground, as it begins flowering earlier than many of the others; like the rest, it may be readily increased by dividing at the root, or by cuttings planted under hand-glasses; when grown in pots, they are the most proper plants for ornamenting rooms, or greenhouses, in Autumn.

The present variety has, in general, a naked receptacle, or is very slightly chaffy; some of the others are thinly, others thickly clothed with chaff; our opinion is, that the chaffy ones are mules, and have been fertilized by the Chinese with the pollen of some species of Anthemis, perhaps A. *apiifolia*, or some nearly related species.

**1. The naked dotted receptacle. 2. Floret. 3. Germen, Style, and Stigma.**

E D Smith del

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A Bailey sculp

# MUSCARI botryoides, α, β, γ.

## *Grape Muscari, three varieties.*

*Natural Order.* ASPHODELEÆ. *Brown prodr.* 274.

*MUSCARI. Perianthium* coloratum, ventricoso-tubulosum; *fauce* coarctata, crenis sex brevissimis marginata. *Stamina* 6, tubo medio inserta. *Stigma* 1. *Capsula* loculis sæpius 2-spermis.

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M. *botryoides,* perianthiis globosis uniformibus; inferioribus remotioribus, foliis strictis linearibus basi angustatis canaliculatis.

Muscari botryoides. *Willd. enum.* 1. *p.* 378. *Link enum.* 1. *p.* 331. *Hort. sub. lond. p.* 73.

Hyacinthus botryoides. *Willd. sp. pl.* 2. *p.* 170. *Pers. syn.* 1. *p.* 375. *Botan. magaz.* 157. *Hort. Kew. ed.* 2. *v.* 2. *p.* 283.

α. *azureum,* floribus azureis. *Sky-blue Grape Muscari.* fig. a.

β. *pallidum,* floribus pallidis. *Pale-blue Grape Muscari.* fig. c.

γ. *album,* floribus albis. *White Grape Muscari.* fig. b.

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*Root* bulbous, increasing rapidly by its numerous offsets. *Leaves* several, smooth, erect, linear, channelled, bluntish, narrowest at the base. *Scapes* generally 2 from the same bulb, erect, about the length of the leaves, smooth, round on one side, and flat on the other, slightly angular. *Flowers* in a crowded cluster, globular, all of the same form, lowermost farthest apart, nodding. *Bractes* 2, at the base of the peduncle, 1 on each side, very short, succulent. *Peduncles* cylindrical, shorter than the flowers, more than double the length of the bractes. *Perianthium* globular, mouth contracted, and terminated in 6 slight margi-

nated notches. *Stamens* 6, inserted in the middle of the tube; *filaments* widest at the base, and narrowing upwards; *anthers* cordate, incumbent, 2-celled. *Germen* trigonal. *Style* about the length of the stamens.

The three varieties represented in our figure are very desirable plants for adorning the flower-borders in Spring, where they may be planted in patches in conspicuous situations, either mixed together, or separate, according to the taste of the Cultivator. The pale blue variety is the least common, and, in our opinion, is the most beautiful; they all increase readily by offsets from the bulbs, and thrive well in a rich light soil, flowering in April, some time before M. *racemosum*.

Our drawing was taken from plants at the Nursery of Mr. Colvill; we also received specimens of the darkest blue and white varieties, from Mr. Milne, of the Fulham Nursery.

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1. Magnified portion of the scape, showing the bractes at the base of the flowers. 2. Perianthium spread open, showing the insertion of the stamens. 3. Stamen detached. 4. Germen, Style, and Stigma, magnified.

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# CLAYTONIA sibirica.

## *Siberian Claytonia.*

*Natural Order.* PORTULACEÆ. *Juss. gen.* 312.

*CLAYTONIA. Calyx* 2-valvis. *Petala* 5 subunguiculata. *Stamina* 5, unguibus petalorum inserta; antheræ incumbentes. *Stylus* 1; stigmata 3. *Capsula* 3-valvis, 1-locularis, 3-sperma. Herbæ; *folia radicalia; scapus opposite 2-phyllus, apice racemoso-multiflorus.*

C. *sibirica*, foliis nervosis: radicalibus caulinisque ovatis, racemo secundo, petalis bifidis. *Willd. sp. pl.* 1. *p.* 1186.
Claytonia sibirica. *Pers. syn.* 1. *p.* 253. *Hort. Kew. ed.* 2. *v.* 2. *p.* 53. *Rœm. et Schult. syst.* 5. *p.* 435. *Botan. magaz.* 2243.

*Perennial. Herbaceous. Roots* tufted. *Branches* short, numerous, much crowded together. *Leaves* succulent, ovate, bluntish, deeply nerved, smooth and glossy; lower ones petiolate, and attenuated down the petiole; upper ones, or those on the scape sessile, the two lower ones opposite. *Petioles* smooth, channelled on the upper side, dilated at the base, and sheathing the stem. *Scapes* axillary, declining, smooth and glossy, generally terminated with 2 racemes of flowers, one of them beginning to flower about the time the other appears. *Racemes* secund, or leaning to one side, drooping till the flowers expand, then becoming erect. *Pedicles* intermixed with the bracte like leaves, slender, smooth and glossy. *Calyx* 2-valved. *Sepals* cordate, concave, bluntish. *Petals* 5, bifid, of a bright lilac, streaked, and lightest at the edges,

unguiculate. *Stamens* 5, inserted in the claws of the petals. *Filaments* declining. *Anthers* red, incumbent. *Style* smooth. *Stigmas* 3, blunt, slightly reflexed.

A handsome little perennial plant, attaining but a few inches in height, and very desirable for ornamenting rock-work, or planting at the front of flower-borders; it may also be cultivated with advantage in small pots, and will continue to flower the greater part of the Summer; it prefers a light sandy soil, and may be increased by cuttings, which soon strike root if planted in a shady situation; it also produces seeds, by which a sufficient quantity may be raised.

Drawn at the Nursery of Mr. Colvill, from a plant raised last year from seed, sent by Dr. Fischer, from the Botanic Garden at Gorenki.

1. The 2-valved Calyx. 2. Petals spread open, showing the insertion of the Stamens. 3. Germen, Style, and Stigma.

E L Smith del

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A Bailey sculp

# LINUM alpinum.

## *Alpine Flax.*

*Natural Order.* LINEÆ. *DC. theor. ed.* 1. *p.* 214.

*LINUM. Calyx* 5-sepalus. *Petala* 5 unguiculata. *Staminum* filamenta 10, basi in annulum connata, alterna fertilia antheris sagittatis, alterna breviora sterilia. *Styli* 5; stigmata 5. *Capsula* 5-valvis, 10-locularis. *Semina* solitaria.

Herbæ *aut suffrutices; folia plurimorum alterna, pauciorum opposita; flores solitarii axillares aut rarius oppositifolii, apice corymbosi aut spicati aut sparsi, in* L. radiola, (Radiola millegrana,) 4-*andri* 4-*styli. Genus a Caryophylleis distinctum staminibus basi monadelphis, nullo nec receptaculo fructus centrali nec seminis perispermo, foliis sæpe alternis.* Juss. gen. 303.

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L. *alpinum*, calycibus rotundatis obtusis, foliis linearibus acutiusculis subreflexis, caulibus declinatis. *Jacq. aust.* 4. *t.* 321.

Linum alpinum. *Willden. sp. pl.* 1. *p.* 1538. *Pers. syn.* 1. *p.* 335. *Hort. Kew. ed.* 2. *v.* 2. *p.* 107.

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*Perennial. Stems* several, declining, smooth at the points, and rough at the base; slightly branched, from 5 to 9 inches in length. *Leaves* alternate, linear, smooth and glaucous, spreading or reflexed; lower ones much the shortest, and bluntish; upper ones longer, taper-pointed. *Corymbus* terminal, pendulous before the flowers expand, afterwards becoming erect. *Peduncles* alternating with the leaves, slender, cylindrical. *Sepals* 5, lanceolate, concave, bluntly rounded, but ending in a small point. *Petals* 5, unguiculate, obovate, of a light blue, tinged with purple, and darker

veins; claws hairy. *Stamens* connected at the base, hairy; *filaments* 10, 5 bearing anthers, and 5 sterile; sterile ones alternating with the others, very slender and filiform, and scarcely half the length of the fertile ones; *anthers* sagittate, 2-celled. *Styles* 5, slender, about double the length of the stamens. *Stigmas* 5, incumbent, shield-like, granular.

Our drawing of this pretty little plant, was taken at the Nursery of Mr. Colvill, King's Road, Chelsea; where it continues to flower nearly all the Summer. It is a neat little plant, and will thrive well on rock-work, or at the edge of flower borders, in a light sandy soil, in a dryish situation, and being of small growth, it requires but little room. It might also be cultivated with advantage in small pots. Being a native of Austria, it is quite hardy, and is more liable to suffer from damp than from cold; it may be increased from cuttings, taken off in a young state, and planted under a hand-glass, where they will soon strike root; it also ripens seeds, which should be sown as soon as gathered, and they will soon make nice young plants.

1. Calyx. 2. Petal. 3. The 5 Stamens connected at the base, alternating with 5 sterile filaments, and inclosing the Germen and 5 Styles. 4. The same split open, showing the 5 barren Filaments. 5. Germen. 6. Styles. 7. Stigmas.

E. D. Smith del. Pub. by R. Sweet Chelsea July 1 1823 N. Bailey sculp.

# ASARUM virginicum.

*Virginian Asarabacca.*

*Natural Order.* ARISTOLOCHIÆ. *Brown prodr.* 349.

*ASARUM. Perianthium* coloratum, urceolatum, 3-s. 4-fidum, germini insidens. *Stamina* 12 brevia, germini imposita; antheræ mediis filamentis adnatæ. *Stylus* brevis; *stigma* stellatum 6-partitum. *Capsula* 6-locularis.

A. *virginicum*, foliis solitariis rotundato-cordatis obtusis glabris petiolatis, perianthium extus glabrum breviter campanulatum.
Asarum virginicum. *Mich. flor. amer.* 1. *p.* 279. *Willden. sp. pl.* 2. *p.* 838. *Pers. syn.* 2. *p.* 1. *Pursh. fl. amer. sept. p.* 597. *Hort. Kew. ed.* 2. *v.* 3. *p.* 141.

*Perennial. Root* tufted. *Branches* very short, 1-leafed, 1-flowered. *Leaves* roundly cordate, obtuse, entire, smooth and shining, strongly veined underneath, and marked with white on the upper side, similar to Cyclamen *vernum*, or *persicum*. *Petiole* long and slender, furrowed on the upper side, and convex on the lower. *Bractes* 2, cucullate, fringed, one double the size of the other. *Flowers* on short footstalks. *Peduncle* cylindrical, 1-flowered, smooth, or slightly pubescent. *Perianthium* short, campanulate, trifid, smooth on the outside, of a pale brown colour, segments straight, obtuse; inside dark purple, rugged and plaited below the mouth; segments spotted with white, pubescent. *Stamens* 12, short, every other one longest, seated on the germen. *Style* scarcely any. *Stigma* stellately 6-parted, segments

bluntish, slightly curved inwards, each having a large pale gland, or protuberance, about half way up.

According to Pursh, the present curious species grows in shady rocky woods, near Virginia and Carolina, flowering in May; with us it blooms much earlier, as our drawing was taken at the Nursery of Mr. Knight, King's Road, the middle of April; and it had then been in flower a considerable time, although the season was very backward; but it continues in flower a long time, as some of them are still remaining, now, about the middle of June. It thrives best in a peat soil, in a shady situation; in such it was cultivated at Mr. Knight's Nursery, where there was a large clump of it entirely covered with bloom; the flowers, though not so splendid as some others, are pretty, and very curious; and as they continue a long time, the plant is well worthy a place in all curious collections. It may be grown in rock-work, if in a shady situation, and the ground should then be made with peat; it is readily increased by dividing at the root.

1. Perianthium spread open, to show the plaited inside, and the insertion of the stamens inclosing the stellately 6-parted stigma, with the large gland on the middle of each segment. 2. Stamens spread open, every other one shortest, seated on the germen. 3. Back view of a detached stamen. 4. Germen, with the short fleshy style, and stellated stigma split open, to show the glands on the inside, all magnified.

E D Smith del

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A Bailey sculp

# PÆONIA paradoxa β, fimbriata.

## *Double fringed Pæony.*

*Natural Order.* RANUNCULACEÆ. *DC. Reg. veg. syst. nat.* 1. *p.* 127.

*Div.* II. Ranunculaceæ spuriæ, seu *Antheris introrsis.*

*PÆONIA. Calyx* 5-sepalus, sepalis subfoliaceis inæqualibus orbiculatis persistentibus. *Petala* 5 (interdum 6-10) orbicularia subæqualia ungue destituta. *Stamina* plures, antheris introrsis; discus carnosus ovaria cingens; *ovaria* 2-5 grossa; *stigmata* sessilia crassa falcata bilamellata crispa; *capsulæ* (folliculive) 2-5, ovatæ, apice stigmate superatæ, 1-loculares, polyspermæ, sutura longitudinali superne dehiscentes. *Semina* subglobosa nitida; umbilicus prominulus; albumen carnosum; embryo in basi locatus.

Herbæ *aut rarius* suffrutices; radices *perennes collo crasso subhorizontali, fibris fasciculatis extus nigricantibus aut omnibus aut aliis cylindricis, alteris in tubercula ovata cylindraceave incrassatis;* vaginæ *squamosæ ad basim caulis;* gemmæ *radicales squamis petiolaribus constantes;* folia *alterna petiolata bis ternatim secta;* flores *terminales, ampli, purpurei rosei aut albi (nunquam nec cærulei nec lutei,) facile multiplices.* DC. syst. 1. p. 386-7.

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P. *paradoxa,* foliolis multipartitis obtusis undulatis, subtus glauco-pilosis, germinibus adpressis tomentosis. *Anderson in Linn. trans. v.* 12. *p.* 280, *cum synon.*

Pæonia paradoxa. *Hort. sub. lond. p.* 124. *Link enum.* 2. *p.* 77.

α. *simpliciflora,* caule omnino glabro, floribus 8-petalis.

β. *fimbriata,* caule vix pilosiusculo, floribus plenis. *Anders. loc. cit.*

Pæonia paradoxa β. *fimbriata. Sabine in Hort. Trans. v.* 2. *p.* 276. *Hort. sub. lond. p.* 124.

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*Roots* tuberous, slenderer than in most species, here and there knotted, spreading. *Stem* from a foot to 18 inches in height, simple, smooth, or slightly pubescent, furrowed. *Leaves* biternate; lower ones

largest, and most divided; upper ones gradually smaller; segments ovate, or oblong, often bifid, or trifid; sometimes simple, bluntish, the upper ones a little pointed, flat, or slightly undulate, upper side naked, uneven, of a bright green; under side thickly clothed with a whitish woolly pubescence. *Petioles* smooth, slightly decurrent, swollen at the base. *Sepals* 5, smooth, unequal, outer ones green, scarcely half the size of the inner ones, nearly round, pointed; inner ones nearly orbicular, retuse, green on the under side, and tinged with red on the upper. *Flowers* double, of a reddish purple. *Petals* 8 on the outside, obovate, slightly retuse, much veined; edges a little uneven, surrounding the numerous stamens that are transformed into narrow petals, with here and there a broad one intermixed. *Pollen* produced round the edges of some of these of a yellow colour. *Germens* 2, erect, close pressed, thickly clothed with a white dense tomentum. *Styles* 2, flesh-coloured, hooked or reflexed.

This beautiful variety of P. *paradoxa* had generally passed in our Nurseries for a variety of P. *humilis*, until its species had been determined by the late Mr. Anderson, and Mr. Sabine, in the Horticultural and Linnean Transactions, where a masterly account of the whole that were known at that time in our gardens is given, with their synonyms.

The present variety is readily distinguished from the double ones of the other species, by its humbler growth, and pubescent leaves; it thrives well in the common garden soil, and is increased by dividing at the root. Our drawing was taken at the Nursery of Messrs. Whitley, Brames, and Milne, of the Fulham Nursery.

1. Calyx showing the unequal sepals. 2. Woolly Germens, crowned with the hooked fleshy style. 3. Stamen partly changed to a petal, showing the pollen on its sides.

# GLOBULARIA vulgaris.

## *Common Globularia, or Blue Daisy.*

*Natural Order.* GLOBULARINÆ. *Link enum.* 1. *p.* 123.

*GLOBULARIA. Calyx* tubulosus 5-fidus persistens. *Corolla* tubulosa, 5-loba, inæqualis; laciniis 2 superioribus minimis. *Stamina* 4, tubo inserto (laciniis alterna?) *Germen* superum; *stylus* 1; *stigma* 1. *Semen* 1, calyce connivente tectum. *Flores* aggregati in calyce communi polyphyllo hemisphærico supra receptaculum commune paleaceum.

Caulis *herbaceus simplex, apice* 1*-florus; folia radicalia sæpe spatulata, emarginato-acuminata; caulina parva aut subnulla. Discrepat* G. Alypum *calyce communi turbinato plurimum imbricato, corollâ ligulatâ tridentatâ, stigmate* 2*-fido, caule frutescente ramoso, habitu Proteæ; an genus diversum? Globularia a Monopetalis hypogynis et ideô à Lysimachiis distinctissima semine nudo et florum dispositione et habitu, indè Statice extùs similis non tamen affinis, similior fortè Proteis sed corollata, unica in suo ordine nondùm cognito, huic tanquàm viciniori nunc adjuncta.* Juss. gen. 97.

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G. *vulgaris*, caule herbaceo, foliis radicalibus tridentatis; caulinis lanceolatis. *Willden. sp. pl.* 1. *p.* 540.

Globularia vulgaris. *Pers. syn.* 1. *p.* 118. *Hort. Kew. ed.* 2. *v.* 1. *p.* 222. *Ræm. et Schult. syst.* 3. 39. *Link enum.* 1. *p.* 123. *Schkuhr. handb.* 1. *p.* 65. *t.* 21. *Botan. magaz.* 2256.

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*Root* perennial. *Branches* numerous, short, tufted. *Leaves* smooth and glossy; lower ones petiolate, ovate, oblong, or spatulate, obtuse, generally terminated with 3 short bluntish teeth; stem-leaves scattered, small, sessile, lanceolate, or oblong, entire, acute. *Flower-stem* from 4 to 6 inches high, furrowed with numerous shallow channels. *Flowers* in a flattish head, about

the size of a large cherry, of a bright blue. *Receptacle* chaffy. *Scales of the chaff* fringed, about the length of the calyx. *Calyx* tubular, hairy, 5-cleft, persistent; segments taper-pointed, fringed. *Corolla* tubular, 5-parted; segments unequal; 2 upper ones very small and slender. *Stamens* 4, inserted in the tube, and alternating with the larger segments. *Style* 1, terminated with an emarginate stigma.

The present beautiful plant is an old inhabitant of our gardens, though it is now very rarely met with; and we had never before seen it growing so luxuriantly, and flowering so abundantly, as we saw it this Spring, at the Nursery of Mr. Lee, at Hammersmith; it was cultivated in a bed of peat soil, several plants of it growing together, which made a fine appearance; and from one of them our drawing was taken. Being a short tufted plant, it might be grown with advantage on rock-work, but requires a light soil; it will also thrive well in pots, and may be increased by seed, or dividing at the root.

1. The chaffy Receptacle. 2. Scale of the chaff, fringed. 3. Calyx and Corolla. 4. Calyx divested of the corolla, and showing its fringed segments. 5. Corolla split open, showing the insertion of the stamens. 6. Germen, Style, and cleft Stigma, all magnified except the receptacle.

E D Smith del

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H Bailey sculp.

# LYSIMACHIA verticillata.

## *Whorled Loose-strife.*

*Natural Order.* PRIMULACEÆ. *Brown prod.* 427.

*LYSIMACHIA.* *Calyx* 5-partitus. *Corolla* rotata, 5-fida. *Stamina* 5. *Capsula* globosa, 5-10 valvis. Folia *opposita v. verticillata.* Flores *axillares v. terminales, solitarii v. spicati aut corymbosi.* Brown prodr. 248.

L. *verticillata,* foliis verticillatis oblongo-lanceolatis ovatisque petiolatis molli-pubescentibus, pedunculis axillaribus uni-triflorisque, petalis ovatis acutis glandulosa-ciliatis, caule pubescente.

Lysimachia verticillata. *Willd. enum.* 1. *p.* 195. *Ræm. et Schult. syst.* 4. *p.* 124. *Link enum.* 1. *p.* 160. *Nob. in Colv. catal. p.* 36. *col.* 1.

*Root* perennial, turfy. *Stems* numerous, springing from the same root, from 1 to 2 feet high, simple, erect, channelled, thickly clothed with unequal woolly hairs. *Leaves* in whorls, 4 or 5 in each whorl; lower ones generally ovate, a little unequal at the base; upper ones oblong, or lanceolate, slightly undulate, rugose, bluntish, many nerved underneath, and channelled above; thickly clothed on both sides with short soft hairs. *Petioles* more than 3 times shorter than the leaves, deeply channelled above, and rounded below; winged, the wings continuing from the leaf down the stalk to the next leaves. *Stipules* none. *Peduncles* from the axils of the leaves, from 1 to 3 flowered, thickly clothed with unequal spreading hairs. *Calyx* 5-parted, about half the length of the petals; segments narrowly lanceolate, concave, acute,

very hairy. *Corolla* rotate, of 1 petal, deeply 5-parted; segments ovate, acute, glandularly ciliate, and covered on both sides with a short glandular pubescence, of a palish yellow, with a brown circle at the base. *Filaments* 5, connected at the base; the upper ones rather the longest, all glandularly pubescent, and all bearing perfect anthers. *Anthers* slightly incumbent, cordate, 2-celled, bursting in front to discharge the pollen. *Style* green, smooth and shining, scarcely as long as the filaments; about the length of the calyx. *Stigma* simple.

This plant is related to L. *vulgaris*, but differs in its root being tufted, not creeping, the stem being simple, and altogether more pubescent; its leaves shorter and blunter, its calyx 3 times the length, and the corolla glandularly ciliate, besides other slighter differences. It is a very ornamental plant, beginning to flower in June, and continuing in bloom till late in Autumn; growing in strong ground to the height of 18 inches; in poorer soil it seldom exceeds a foot. It will, also, thrive very well in rock-work; and being a native of Hungary and Tauria, it is quite hardy. It is readily increased by dividing at the root; it may also be raised from seeds, which succeed best if sown as soon as gathered. Drawn at the Nursery of Mr. Colvill, last October.

1. Calyx. 2. Corolla split open, showing the stamens connected at the base. 3. Stamens divested of the corolla, all joined at the base. 4. Germen, Style, and Stigma, all slightly magnified.

a little flattened, slightly furrowed. *Pedicles* scarcely as long as the calyx, slender, all bent to one side. *Calyx* smooth, tubular, blunt at the base; limb 5-toothed; teeth subulate, unequal; the upper ones shortest and deepest. *Corolla* papilionaceous, white, slightly tinged with rose; *vexillum* obovate, blunt, slightly emarginate; *alæ*, or *wings*, about the length of the vexillum; spoon-shaped, eared on the inside, unguiculate; *keel* shorter than the wings, of a greenish white, curved upwards. *Stamens* 10, diadelphous, 9 connected into a tube, the other distinct. *Pod* flat, many-seeded, terminated with a green pointed style, and fringed stigma.

Our drawing of this handsome plant was taken at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham; we also received specimens of it from Mr. Knight, of the King's Road. It thrives well in a rich light soil; and, when grown strong, attains the height of 2 feet, flowering in May and June, and ripening its seeds in July, which should be sown as soon as ripe; they will then make flowering plants for the next season, if properly treated. They may either be sown in pots, or in the open ground; if in the latter, it should be a sheltered situation, and free from weeds; they may also be increased, but sparingly, by dividing at the root.

1. Calyx. 2. Vexillum. 3. Alæ, or Wings. 4. Carina, or Keel. 5. Stamens, with the style exserted just above them. 6. The single distinct Stamen. 7. The other 9 connected into one piece about half way up. 8. The young Seed-pod, terminated with its Style.

# VERONICA latifolia.

## *Broad-leaved Speedwell.*

*Natural Order.* SCROPHULARINÆ. *Brown prodr.* 433.

Sect. I. Stamina duo antherifera, Capsula bilocularis.

*VERONICA. Calyx* 4-partitus, raro 5-partitus. *Corolla* subrotata. *Tubus* calyce brevior. *Limbus* 4-partitus, inæqualis, lobis indivisis. *Stamina* 2, antherifera, sterilia nulla. *Capsula* valvis medio septiferis, v. bipartibilis.

Herbæ *vel* Frutices, Folia *opposita, quandoque verticillata v. alterna, sæpe dentata v. incisa.* Inflorescentia *varia.* Calyces *ebracteati.* Brown prodr. 434.

V. *latifolia,* racemis lateralibus longissimis, foliis cordato-ovatis sessilibus rugosis obtuse serratis, caule erecto, segmentis calycinis quinis.

Veronica latifolia. *Willden. sp. pl.* 1. *p.* 71. *Pers. syn.* 1. *p.* 12. *Hort. Kew. ed.* 2. *v.* 1. *p.* 33. *Ræm. et Schult.* 1. *p.* 111.

Veronica pseudo-chamædrys. *Jacq. aust.* 1. *p.* 37. *t.* 60.

Veronica Teucrium. *Roth neue Beytrage. p.* 69. *Pers. syn.* 1. *Corrigenda et Addenda.*

*Root* perennial, tufted. *Stems* erect, simple, thickly clothed with a dense woolly pubescence, from 18 inches to 2 feet high. *Leaves* opposite, cordately ovate, sessile, clasping the stem, rugose or wrinkled, bluntish, and bluntly serrated, hairy on both sides, of a dark green colour; upper leaves narrower and more pointed. *Racemes* lateral, very long, many flowered, generally 4 on each stalk. *Flower-stalks* cylindrical, villous. *Bractes* subulate; lower ones about the length of the peduncle; upper ones about half the length. *Calyx* deeply 5-cleft, segments unequal, taper-pointed, back

ones nearly double the length of the middle ones; front one very short and small. *Corolla* 4-cleft, of a bright blue colour, segments unequal; the upper one largest, cordately ovate; middle ones rather less; lower one narrowest, and more pointed. *Stamens* 2; filaments inserted in the mouth of the corolla, scarcely as long as the segments; anthers incumbent. *Capsule* nearly orbicular, emarginate, the septum passing down through the middle. *Style* smooth, about the length, or a little longer than the stamens. *Stigma* capitate.

The present ornamental plant is a native of Austria; and succeeds well in our flower borders in the open ground, flowering from May to July; we think it one of the handsomest species of the genus; and it will thrive in any soil, or situation; but the richer the soil is, the stronger it will grow, and the flowers will be more numerous; though it will succeed very well in a small pot, if it be well supplied with water. It is readily increased by dividing at the root; or by seeds, which ripen plentifully. Our drawing was taken at the Nursery of Mr. Colvill, in June last.

1. Calyx split open, to show the 5 segments, and the bracte at the base of the footstalk. 2. Corolla split open, showing the insertion of the 2 stamens. 3. Germen, Style, and capitate Stigma. 4. Capsule, all natural size.

E D Smith del

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A Bailey sculp

# PHLOMIS laciniata.

## *Jagged-leaved Phlomis.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.

Sect. II. Stamina 4-fertilia, antheris omnium v. duorum completis.

A. Calyx regularis 5-fidus v. 5-10-dentatus.

***PHLOMIS.*** *Calyx* 5-gonus, 5-dentatus. *Corolla* galea incumbens, carinato-compressa, barbata, emarginata v. incisa; *labium inferius* proportionatum; lobo medio majore. *Stigma* labio superiore breviore. *Brown Hort. Kew. ed.* 2. *v.* 3. *p.* 406.

P. *laciniata*, foliis alternatim pinnatis; foliolis laciniatis, calycibus lanatis. *Willden. sp. pl.* 3. *p.* 120. *Pers. syn.* 2. *p.* 126. *Hort. Kew. ed.* 2. *v.* 3. *p.* 408.

***Root*** perennial, herbaceous. ***Stem*** erect, thickly clothed with a woolly pubescence, about 3 feet high. ***Leaves*** near the root, petiolate, alternately pinnate, downy; *leaflets* lanceolate, more or less laciniate; segments unequal, obtuse, sometimes toothed; *stem-leaves* sessile, pinnatifid or laciniate, smooth and shining on the upper side, and downy on the lower; segments obtuse, unequally toothed with blunt teeth. ***Flowers*** whorled in a long spike. ***Bractes*** subulate, clothed with long woolly hairs. ***Calyx*** tubular, narrowest at the base, 5-sided, angles terminated with 5 short subulate teeth, densely clothed inside and out with long shaggy wool. ***Corolla*** tubular, 2-lipped, woolly; *helmet* keeled, compressed, emarginate, densely fringed, of a pale sulphur colour; *lower lip* very broad, keeled, 3-lobed; upper lobe undulate, of a deep yellow, edged with brown; side-lobes flat, of a

pale yellow. *Stamens* 4, ascending, the 2 uppermost rather longest, inserted in the mouth of the corolla, and joined at the base; the 2 lower ones shorter, inserted in the tube below the mouth; *filaments* hairy; *anthers* incumbent. *Seeds* 4, smooth at the base, points bearded. *Style* smooth, about the length of the stamens. *Stigma* unequally forked.

The present rare and handsome species is a native of the Levant; and, although it has been in our gardens ever since the year 1731, it is now seldom to be met with. For the opportunity of giving this figure, we are obliged to Messrs. Whitley, Brames, and Milne, at whose Nursery, at Fulham, it flowered luxuriantly, this Summer, the plant having attained the height of 3 feet. We suspect one reason of its present scarcity to be, its suffering from too much moisture in Winter; it is, therefore, requisite to keep some plants of it in pots, that they might be protected under frames in moist or very cold weather. The best method of increasing it is from seeds, which will ripen plentifully, if some pollen be rubbed on the stigmas when in full bloom; as soon as gathered, they should be sown in pots, and preserved under a frame in Winter, and they will make flowering plants for the next Summer.

1. Calyx. 2. Corolla split open, showing the insertion of the stamens. 3. Stamen detached. 4. The 2 upper Stamens joined together, about half way their length; the upper parts distinct. 5. Style and Stigma. 6. The 4-bearded Seeds.

E D Smith del

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A Bailey sculp

# CORONILLA iberica.

## *Iberian Coronilla.*

*Natural Order.* LEGUMINOSÆ. *Juss. gen.* 345.

*Div.* VIII. *(PAPILIONACEÆ.)* Corolla irregularis papilionacea. Stamina decem diadelpha. Legumen articulatum articulis monospermis. *Juss. gen.* 361.

*CORONILLA. Calyx* 2-labiatus; suprà 2-dentatus dentibus junctis: infrà 3-dentatus. *Vexillum* vix alis longius. *Lomentum* teres, articulatum, rectum.

Herbæ *aut* Suffrutices; *folia impari-pinnata, stipulis à petiolo distinctis, pedunculi axillares et terminales, umbellatim multiflori; legumen in pluribus* 2*-valve sub* 1*-loculare vix articulatum, in* Coronilla T. *subcylindricum seminibus oblongis, in* Securidaca T. *latius compresso-planum apice subulatum seminibus subquadratis, tenue subulatum seminibus cylindricis in* Emero T. *cujus præterià caulis frutescens et petala unguiculata et unguis vexilli basi* 2*-callis.* *Juss. gen.* 361.

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C. *iberica*, herbacea procumbens, foliolis undenis cuneato-obcordatis sericeo-pubescentibus, stipulis cuneatis ciliatis, umbellis 6-8-floris.

Coronilla iberica. *Marsch. Bieb. taur. cauc.* 1. 171. 3. 479. *Link enum.* 2. *p.* 244. *Steud. nomen.* 228.

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*Root* perennial. *Stems* numerous, prostrate, spreading round in all directions, slightly angular, pubescent. *Leaves* pinnate; *leaflets* generally 11, cuneate or obcordate, covered on both sides with a silky pubescence, margins fringed. *Petioles* channelled on the upper side, and convex on the lower. *Stipules* short, cuneate, fringed. *Peduncles* cylindrical, pubescent, bearing umbels of from 6 to 8 flowers. *Involucre* of several very small pointed teeth. *Pedicles* scarcely

as long as the calyx, recurved. *Calyx* 2-lipped; upper lip keeled, composed of 2 flat teeth joined together, fringed at the point with numerous long white hairs; lower lip toothed with 3 sharp pointed teeth, also fringed. *Corolla* papilionaceous, of a bright yellow colour; *vexillum* about the length of the wings, unguiculate, keeled, emarginate; *alæ* or *wings* obovate, unguiculate, eared on one side; *keel* about the length of the wings, or scarcely as long, bifid at the base, point acute, curved inwards. *Stamens* 10, scarcely diadelphous, the back stamen being joined to the others more than half way up; *filaments* all distinct at the points; *anthers* incumbent. *Style* falcate, gradually tapering upwards. *Stigma* capitate.

For the opportunity of giving a figure of this beautiful plant, we are indebted to Mr. Anderson, Curator of the Garden belonging to the Apothecaries' Company, at Chelsea, where it is cultivated in the open ground, and spreads round to some distance, making a fine appearance with its numerous golden yellow flowers; it differs from the others of the genus, by its stamens being all connected at the base.

Being a native of Iberia, it is likely to succeed well in the open borders; but it will be well to keep some plants of it in pots, that they may be protected in a frame in Winter, as it may probably suffer from too much moisture. It is readily increased by seeds, which ripen freely.

1. Calyx. 2. Vexillum. 3. One of the alæ, or wings. 4. Keel. 5. The 10 stamens joined at the base, the back one parted from the others about half way down. 6. Germen, terminated with the Style, and small capitate Stigma.

E. D. Smith del. — Pub. by R. Sweet Pavilion Sept. 1 1823 — A. Bailey sc.

# SALVIA Tenorii.

## *Tenore's Sage.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.

Sect. I. Stamina 2 fertilia; v. dum 4 fertilia. Antheræ omnium dimidiatæ.

*SALVIA. Calyx* subcampanulatus, bilabiatus, labio superiore 3-dentato, inferiore bifido. *Corolla* ringens. *Filamenta* duo fertilia bifida, lobo altero adscendenti antherâ dimidiatâ, altero sterili. Folia *rugosa*. Flores *verticillato-racemosi*. Brown prodr. 500.

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S. *Tenorii*, foliis oblongis subsinuatis inæqualiter crenatis rugosis reticulato-venosis; summis amplexicaulibus acutis, verticillis subnudis, corollis galea hirsuta falcata, calycibus sulcatis.

Salvia Tenorii. *Spreng. pug.* 1. *n.* 3. *Rœm. et Schult. syst.* 1. 242. *Link enum.* 1. *p.* 14. *Steud. nomen. p.* 729.

Salvia Barrelieri. *Tenore. Schrank. Hort. monac.* 1. *t.* 5.

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*Root* perennial. *Stems* from 1 to 2 feet high, not much branched; branches bluntly quadrangular, thickly clothed with unequal spreading hairs. *Leaves* near the root petiolate, oblong, slightly jagged, unequally crenate, bluntly pointed, very rugged and uneven, reticulately veined, hairy on both sides; *upper leaves* clasping the stem, or sometimes with very short footstalks, cordate, acute, more deeply jagged. *Petioles* flat on the upper side, and convex on the lower, hairy, as are the peduncles and calyx. *Flowers* growing in whorls, about six in each, of a beautiful dark blue, tinged with purple. *Bractes* small, cordate, taper-pointed, fringed. *Peduncles* short and slender,

about half the length of the calyx. *Calyx* campanulate, hispid, deeply furrowed with numerous channels, 2-lipped; upper lip terminated in 3 short pointed teeth; lower lip bifid. *Corolla* ringent, hairy; helmet narrow, and very much falcate; lower lip 3-lobed, terminal lobe cucullate, crenate, side ones small and narrow. *Stamens* 2, fertile, on short stems; *filaments* ascending; *anthers* linear, incumbent; *sterile stamens* 2, gland-like, on a short footstalk. *Seeds* 4, smooth, of a dark brown colour. *Style* long and slender, terminated with an unequal bifid stigma.

This handsome plant was raised last year at the Nursery of Mr. Colvill, from seed received from Dr. Fischer, then at the Botanic Garden at Gorenki, under the name of S. *dumetorum;* but we have no doubt but it is the species for which we have given it, and it is cultivated by Mr. Anderson as such. It makes a fine show in the flower borders, being covered with beautiful blue flowers in May and June. Our plants grew nearly 2 feet high; perhaps when it gets stronger, it will attain a greater height; it thrives well in the common garden soil, and would succeed very well in rock-work. Seeds of it ripen freely, so that any quantity of them may soon be raised.

1. Calyx. 2. Corolla split open, to show the insertion of the stamens. 3. Stamens detached from the corolla. 4. Style and unequal divided Stigma.

C. D. Smith del. Pub.d by R. Sweet Chelsea Sep.t 1.1823 A. Bowles sc.

# HYOSCYAMUS agrestis.

## *Hungarian field Henbane.*

*Natural Order.* SOLANEÆ. *Juss. gen.* 124.
*HYOSCYAMUS. Supra fol.* 12.

H. *agrestis*, foliis amplexicaulibus angulato-dentatis glabriusculis, floribus sub-sessilibus, corollis reticulato-venosis, calycibus angulatis, caule villoso ramoso.
Hyoscyamus agrestis. *Rœm. et Schult. syst.* 4. 308. *Link enum.* 1. *p.* 177.

*Annual. Stem* erect, branching, from a foot to 18 inches in height; *branches* spreading, thickly clothed with long villous hairs. *Leaves* clasping the stem, ovate, acute, angular, or toothed with large pointed teeth, smoothish, nerves villous underneath. *Flowers* all leaning to one side, nearly sessile. *Peduncles* very short, longest on the lowermost flowers, villous. *Calyx* tubular, 5-toothed, inflated, angular, thickly clothed with long villous hairs; mouth spreading. *Corolla* tubular, mouth spreading, ringent, 5-cleft, of a brownish yellow, reticulately veined with violet-coloured veins, the lower part of a dark-brownish purple; segments unequal, obtuse. *Stamens* 5, inserted in the tube; *filaments* densely clothed at the base with rigid spreading hairs, the upper part smooth and naked; *anthers* incumbent. *Germen* smooth and shining. *Style* hairy, about the length of the stamens. *Stigma* capitate, fimbriate.

We first observed plants of this species, about seven years back, at the Nursery of Messrs. Whitley and Co. at Fulham; where it was raised from seeds given them by a friend, who collected them on the Carpathian Mountains; it is nearly related to our British species H. *niger*, but differs in that being biennial; the present is annual. H. *pallidas* is also allied to it, but its flowers are of a pale yellow, and not netted. It only requires to be sown in the open ground; the plants when come up, must be thinned out, so as to be about 6 inches apart, or else they will be drawn up by being too close together, and the plants will not be so handsome, or flower so well. If the seeds are sown in Autumn, it will bloom early in Spring; if sown in February, they will flower later; some may be sown as late as May or June, to flower late in Autumn; like other annuals, it is a good plan to sow them at different seasons, so as to have a good succession of flowers.

Drawn at the Nursery of Mr. Colvill, where the plants grew about 18 inches high, and produced plenty of seeds.

1. Calyx. 2. Corolla split open, to show the insertion of the stamens. 3. Stamen detached, showing the hairy filament. 4. Germen, Style, and fringed capitate Stigma.

E. D Smith del — Pub by R Sweet Chelsea Sept 1 1823 — S Bailey sculp

# HEMEROCALLIS disticha.

## *Fan-like Day-Lily.*

*Natural Order.* HEMEROCALLIDEÆ. *Brown prodr.* 295.

*HEMEROCALLIS. Perianthium* campanulatum; tubo cylindrico. *Stamina* 6, declinata. *Stigma* parvulum, simplex, villosulum.

Herbæ *perennes;* rhizoma *fibris fasciculatis carnosis crassis nunc fusiformi-protuberantibus;* folia *radicalia plura-numerosa a plano obversa bifaria, ambientiave, lorato-attenuata, ab inferius convoluto-equitantibus canaliculato-explicantia, nunc petiolata lamina nervoso-costata;* caulis *teres, bractea vel spatha sterili nunc folio stipatus, simplex;* racemus *pauci-multiflorus, corymbi-vel thyrsiformis, vel nunc spicatim effusus;* pedicelli *ramiformes stricti, gracilisve flexilis;* flores *majusculi, speciosi. Plurimum* LILII, *multum* AGAPANTHI *habet.* Ker Botan. magaz. 1433.

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H. *disticha,* foliis linearibus carinatis distichis, perianthium laciniis lanceolatis undulatis acutis patentibus reflexis; tribus interioribus latioribus, nervisque petalorum exterioribus ramosus.

Hemerocallis disticha. *Donn Cant. ed.* 6. 93. *Botan. magaz.* 1433. *Specie. enumer. Hort. sub. lond. p.* 67.

Hemerocallis fulva. *Thumb. jap.* 142. *excl. syn. Linn.*

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*Perennial,* producing numerous suckers from the base. *Leaves* distichous, or fan-like, linear, bluntly keeled on the lower side, and deeply channelled on the upper, elegantly striated, smooth and glossy; when full grown, nearly a yard in length. *Flower-stem* proceeding from the side of the shoot, much shorter than the leaves, (in our specimen,) about 1 foot 9 inches in height, forked at the point, slightly angular upwards, a little twisted, and slightly covered with a whitish powder, which comes off as soon as touched; from the stem is produced 3 bracte like leaves or sterile

spathes, from 2 to 3 inches in length, sheathing the stem, their margins involute. *Scapes* forked. *Racemes* 2, (in our specimen,) each producing 6 flowers, 1 or 2 opening at the same time. *Bracte* short, at the base of each flower, cordate or ovate, pointed, membranaceous, sheathing the stem; upper ones shortest, and broadest. *Peduncle* very short, decurrent down the stem. *Perianthium* campanulate, tubular; *tube* about 1 inch and a half in length, cylindrical, pale yellow; *segments* 6, lanceolate, undulate, acute, spreading, about 3 inches and a half long, reflexed about half their length, of a light brown orange colour; inner petals broadest. *Stamens* 6, inserted in the mouth of the tube; *filaments* long, declining, irregularly bent, with here and there a protuberance on them. *Anthers* incumbent, slightly attached to the filament. *Germen* smooth, obsoletely 3-sided. *Style* about the length of the stamens, with some irregular protuberances towards the point. *Stigma* simple, slightly bearded.

Our drawing of this beautiful plant was taken at the Nursery of Messrs. Allen and Co., King's Road, where it produced 2 scapes of flowers; one, after the other was over. It is seldom to be met with in flower in our collections, and may therefore be considered a great rarity. We have been acquainted with it for several years, but never saw it flower before; perhaps the reason is, that we have, generally, seen it cultivated in the open ground; the present subject was grown in a pot, by which means it grew weaker, and, perhaps, that occasioned its flowering.

It is a native of China, but grows freely in the open ground, in the common garden soil; and propagates readily from the suckers, which it produces in abundance.

**1. The Tube split open, showing the 6 stamens inserted in its mouth. 2. Germen. 3. Style, showing some protuberances towards the point. 4. The bearded Stigma.**

E D Smith del. Pub by R. Sweet Chelsea Oct 1. 1823 A Bailey sc.

# PHLOX triflora.

## *Pubescent-stemmed Lychnidea.*

*Natural Order.* POLEMONIDEÆ. *Juss. gen.* 136.

*PHLOX. Calyx* 5-fidus aut 5-partitus connivens. *Corolla* tubulosa hypocrateriformis, tubo longo, limbo plano 5-partito. *Stamina* 5 inæqualia; antheris sagittatis. *Stigma* trifidum. *Capsula* 3-locularis, 1-sperma.

Herbæ; *folia opposita simplicia, floralia interdum alterna; flores subcorymbosi terminales. Habitus Saponariæ, sed flos* 1-*petalus.* Juss. gen. loc. cit.

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P. *triflora,* caulibus erectis subpubescentibus, foliis lanceolatis glabris, corymborum ramis subtrifloris, calycinis dentibus linearibus. *Michaux. Flor. Amer.* 1. *p.* 143.

Phlox triflora. *Pers. syn.* 1. *p.* 186. *Hort. sub. lond. p.* 36. *Colv. catal. ed.* 2. *p.* 40. *col.* 1.

Phlox carnea. *Botan. magaz.* 2155.

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*Root* perennial. *Stems* branching, nearly erect, a little flexuose, from a foot to 18 inches high, thickly clothed with a dense woolly pubescence, upper part obsoletely quadrangular; *branches* spreading, each crowned with a corymbus of flowers. *Leaves* short-petioled, entire, lanceolate, acute, broad at the base, smooth, and dotted all over with innumerable minute dots; lower ones opposite, those near the flowers sometimes alternate. *Flowers* in a loose spreading corymbus, of a pale lilac colour; branches of the corymbus mostly 3-flowered. *Peduncles* smooth, seldom as long as the calyx. *Calyx* deeply 5-cleft, segments linear, keeled, and taper-pointed, all joined by a thin membrane at the base. *Corolla* tubular;

tube about twice the length of the calyx ; limb 5-parted, segments roundly obcordate, slightly undulate, at last reflexed. *Stamens* 5, unequal, inserted in the tube, one just below the mouth, and projecting a little beyond it, 2 a little lower down, and the other 2 more than one third of the way down. *Filaments* very short. *Anthers* sagittate. *Pollen* yellow. *Germen* smooth, of a dark green. *Style* smooth, filiform. *Stigma* trifid, segments erect, or slightly spreading, obtuse.

Our drawing of this beautiful species was taken at the Nursery of Mr. Colvill, where it continues to flower from July to October, if the weather continues mild; like most of the species of this genus, it is a native of North America, and contributes greatly to enliven our flower borders, the latter part of Summer. It succeeds well in the open ground, in the common garden soil, growing to the height of a foot or 18 inches, according to the strength of the plant, or richness of the soil. Cuttings of it planted under hand-glasses, strike root readily; when rooted, they may either be potted, or planted in the ground; the sooner in Spring the cuttings are put in, the stronger the plants will be; and if planted early, many of them will flower the same season.

1. Calyx. 2. Corolla, with its tube split open, to show the insertion of the stamens. 3. Stamen detached. 4. Style, terminated with 3 Stigmas.

D. Smith del

Pub by R. Furber Chelsea Oct 1.1923

A. Bailey sc

# LINARIA bipartita.

## *Cloven-flowered Toad-flax.*

*Natural Order.* SCROPHULARINÆ. *Brown prodr.* 433.
Sect. II. Stamina 4 antherifera.
*LINARIA. Calyx* 5-partitus. *Corolla* basi calcarata; faux palato clausa. *Capsula* ventricosa, bilocularis, valvata v. dentata; dissepimento membranaceo, medio seminifero.
Folia *sæpius alterna, in quibusdam inferiora opposita aut verticillata; flores axillares, aut sæpius bracteati spicati terminales. Species quædam palato destitutæ; quædam interdum, fœcundatione hybrida, corollis onustæ regularibus* (Pèloria L.) *5-andris, basi 5-calcaratis, limbo 5-lobis, interea non fructiferæ, sed taleis propagandæ.* Juss. gen. 120.

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L. *bipartita,* foliis lineari-lanceolatis; inferioribus oppositis: superioribus alternis, racemis laxis, galea erecta bipartita.
Linaria bipartita. *Willd. enum.* 2. 640. *Link enum.* 2. 136. *Hort. sub. lond. p.* 141.
Antirrhinum bipartitum. *Vent. hort. cels. t.* 82. *Pers. syn.* 2. *p.* 155.
Antirrhinum speciosum. *Donn. hort. cant. ed.* 7. *p.* 178.

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*Root* annual. *Stem* erect, branching; branches erect, nearly cylindrical, smooth, and glossy. *Leaves* linearly lanceolate, acute, concave, slightly pubescent, glaucous; lower ones opposite; upper ones alternate. *Racemes* long, erect, flowers rather distant from each other. *Bractes* cordately lanceolate, taper-pointed, with red margins. *Pedicles* slender, longer than the bractes. *Calyx* 5-parted nearly to the base; segments lanceolate, acute, keeled; margins red and transparent. *Corolla* tapering into a long sharp spur at the base, mouth closed; helmet erect, 2-parted, lobes ligulate,

obtuse; lower lip 3-lobed, the middle lobe smallest, side ones rounded and spreading. *Flowers* varying from a bright blue purple to a light purple, and variously marked with yellow. *Stamens* 4, inserted in the base of the corolla, the 2 upper ones shortest; *filaments* smooth; *anthers* incumbent. *Style* smooth, shorter than the stamens. *Stigma* bifid, points curved inwards towards each other.

A very handsome hardy annual, which requires no particular care, as the seeds may be sown in the open ground, where they are to remain, and only require to be kept clean from weeds; it seldom exceeds a foot in height, but branches a good deal, so that the plants should not grow too close together; the colour of the flowers vary considerably on different plants, some being nearly blue, others more inclining to purple, and some are nearly yellow; if the seeds are sown the latter end of March, or beginning of April, the plants will be more forward and stronger than those that are sown later in the season; and if the weather be not too dry, they will continue to make young shoots, and flower all the Summer.

Drawn at the Nursery of Mr. Colvill. A native of Barbary, and flowers from June to October.

1. Calyx. 2. Front view of the Corolla. 3. The same spread open, to show the insertion of the stamens. 4. Stamen. 5. Germen, Style, and bifid Stigma.

E D Smith del. Pub. by R. Sweet, Chelsea, Oct.r 1823 A Barclay sc.

# VERBASCUM pyramidatum.

## *Pyramidal Mullein.*

*Natural Order.* SOLANEÆ. *Juss. gen.* 124.

*Sect.* I. Pericarpium capsulare.

*VERBASCUM. Calyx* 5-partitus. *Corolla* rotata patens 5-loba inæqualis. *Stamina* 5, inæqualia, filamentis inclinatis barbatis. *Stigma* 1. *Capsula* 2-locularis, 2-valvis; valvulis inflexis, polysperma.

Herbæ, *pleræque tomentosæ; folia quorumdam decurrentia, quorumdam petiolus appendiculatus; flores* Blattariæ T. *spicati more Celsiæ,* Verbasci T. *spicato-paniculati bracteati, bracteis multifloris.* Juss. gen. loc. cit.

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V. *pyramidatum,* foliis nudiusculis; inferioribus oblongis basi attenuatis: superioribus cordatis acuminatis subsessilibus, racemis paniculatis, floribus sparsis subsolitariis, filamentis omnibus barbatis. *Willd. enum.* 1. *p.* 224.

Verbascum pyramidatum. *Rœm. et Schult. syst.* 4. *p.* 343. *Link enum.* 1. *p.* 175. *Hort. sub. lond. p.* 40.

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*Biennial. Stem* erect, from 5 to 8 feet high, much branched; *branches* forming a pyramid, lower ones very long, putting out other branches from the bottom; upper ones shorter and simple, all slightly decurrent, furrowed, very downy. *Leaves* reticulately veined, a little rugged, smooth and shining, scarcely pubescent; lower ones oblong, slender at the base, with a short footstalk, sometimes 18 inches in length, unequally jagged, and toothed with large bluntish teeth; gradually lessening in size up the stem; at length cordate, sessile, acuminate, more or less jagged or toothed. *Racemes* very long, branched. *Flowers* scattered, generally solitary, of a light yellow.

*Bracte* 1, at the base of each pedicle, lanceolate, taper-pointed, slightly fringed, lower ones a little longer than the calyx, upper ones not so long. *Pedicles* scarcely as long as the segments of the calyx, very downy. *Calyx* 5-parted, segments unequal, some ovate, others lanceolate, acute. *Corolla* rotate, spreading, 5-parted; laciniæ unequal, the 2 upper ones smallest and narrowest; the lower one largest and broadest. *Stamens* 5, inserted into the base of the corolla, the upper ones shortest; *filaments* smooth and naked at the base, of an orange colour, upper part densely bearded with violet-coloured villous hairs; *anthers* reniform; *pollen* orange-coloured. *Style* smooth and glossy. *Stigma* capitate, villous.

A fine stately biennial, native of Mount Caucasus. Drawn at the Nursery of Mr. Colvill, where it was raised last year from seed sent by Dr. Fischer. In rich soil, it will attain the height of 7 or 8 feet, of a pyramidal form; and being of strong growth, it should be kept at the back of the flower borders. If the seeds are sown as soon as ripe, the young plants will come up and flower the next season. It appears to the greatest advantage singly, as its pyramidal shape is then better seen. Seeds ripen in abundance, by which any quantity may be raised.

1. Calyx. 2. Corolla spread open, showing the insertion of the stamens at the base, alternating with the segments of the corolla. 3. Stamen detached. 4. Germen, Style, and Stigma.

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E. D. Smith del.
Pub. by R. Sweet Chelsea Oct. 1 1823
A. Barclay sculp.

# NEMOPHILA phacelioides.

## *Phacelia-like Nemophila.*

*Natural Order.* HYDROPHYLLEÆ. *Brown.*

*NEMOPHILA. Calyx* inferus, persistens, 10-fidus; laciniis alternis reflexis. *Corolla* campanulata, 5-loba; lobis emarginatis. *Nectarium* foveolæ 10 ad marginem faucis. *Stamina* brevia. *Antheræ* lunatæ. *Capsula* unilocularis. *Semina* 4, unum supra alterum receptaculis duobus parietalibus inserta. (*Ovarium* uniloculare, placentis duabus parietalibus dispermis, ovulis distantibus. *Capsula* unilocularis, placentis carnosis, axi longitudinali dorsali affixis, cæterum solutis, seperficie ventrali seminiferis. *Brown MSS.*) *Bot. mag.* 2373.

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Nemophila phacelioides. *Barton fl. americ.* 61. *Botan. magaz.* 2373.

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*Root* biennial? or, perhaps, annual? *Stems* succulent, erect, much branched; *branches* forked, acutely triangular, occasioned by the decurrent leaves, having 3 flat, or rather convex sides; angles hairy, the hairs recurved. *Leaves* alternate, pinnatifid, slightly hairy, succulent, of a light green colour; *segments* oblong, oblique, some bluntish, others acute, finely ciliate; lower ones distant, more or less lobed. *Petioles* shorter than the leaves, decurrent down the stem, concave on the upper side, and convex on the lower, ciliate, with a fascicle of long white hairs at the base. *Peduncles* solitary, cylindrical, tapering upwards, 1-flowered, sometimes opposite to the leaf, more frequently on one side, sometimes axillary, or a little above it, smooth, or with here and there a hair scattered on it. *Calyx* inferior, persistent, 10-cleft; segments oblongly-lanceolate, acute, ciliate, every other

one several times largest; 5 larger ones erect, or spreading, their margins recurved; 5 smaller, flat, reflexed. *Corolla* campanulate, densely bearded at the mouth, limb 5-cleft, laciniæ oblong, obtuse, slightly emarginate, veined with numerous branching veins. *Nectary* 10 small purple hollows, surrounding the mouth of the tube. *Stamens* 5, scarcely half the length of the corolla; *filaments* smooth, inserted in the base of the tube; *anthers* incumbent, sagittate and straight before bursting; afterwards burst on each side, and becoming lunular; *pollen* white. *Germen* densely hairy. *Style* erect, very hairy at the base, and smooth upwards. *Stigma* bifid, ending in two blunt simple points.

A very beautiful hardy biennial? or, perhaps, annual? native of North America, and lately introduced by John Walker, Esq. of Southgate, and kindly communicated by him to Mr. Colvill, at whose Nursery our drawing was taken. It belongs to the Natural Order *Hydrophylleæ* of Mr. Brown, to which, also, belougs *Hydrophyllum*, *Phacelia*, and *Ellisia*, and a new polyspermous genus, described by Mr. Brown under the name of *Eutoca Franklinii*; the above genera have been usually referred to *Borragineæ*; an order in which all the true genera belonging to it, bear 4 naked seeds; those above have been referred to it merely on account of the same number of seeds, though contained in a capsule; but, as Mr. Brown observes, *Eutoca* being polyspermous, cannot certainly belong to *Borragineæ*, but is a true congener of *Hydrophylleæ*; it, therefore, establishes the order, though an anomaly in it.

1. Calyx. 2. One of the laciniæ of the corolla, showing the 2 nectariferous pores, and its bearded base. 3. Stamen inserted in the base of the corolla, showing its crescent shaped anther. 4. The same just as the flower opens, when the anthers are straight. 5. Germen, Style, and Stigma.

E. J. Smith del. Pub by R. Sweet Chelsea Nov.r 1823 A. Bailey sc. et p.

# PHLOMIS pungens.

## *Pungent-bracted Phlomis.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.
*PHLOMIS. Supra, fol.* 24.

P. *pungens*, foliis petiolatis oblongo-lanceolatis apice serratis superne scabris subtus tomentosis, calycinis dentibus subulatis patentibus, bracteis calyce longitudine subulatis mucronatis. *Willden. sp. pl.* 3. *p.* 121. *Pers. syn.* 2. *p.* 127.

*Perennial. Stem* about 18 inches high, branching; *branches* obtusely quadrangular, furrowed, thickly clothed with long villous hairs, and short down intermixed. *Leaves* opposite, oblong or lanceolate, pointed, entire at the base, and serrated from about the middle with blunt serratures; upper side rather wrinkled, roughish, hairy; under side tomentose, many nerved, reticulately veined. *Petioles* short and flat, widened at the base, villous. *Flowers* in whorls, 10 or 12 in each, of a dingy purple. *Bractes* numerous, rigid, subulate, taper-pointed, fringed, about the length of the calyx. *Calyx* tubular, narrowest at the base, villous, 5-angled, each angle terminated with a long subulate spreading segment, and between each angle is another smaller one; segments fringed. *Corolla* tubular, 2-lipped, woolly; *helmet* keeled, sides compressed, slightly bearded, emarginate; *lower lip* 3-lobed; terminal lobe broad, rounded, keeled underneath; side lobes lanceolate, taper-pointed. *Stamens* 4, 2 rather longer than the others, inserted in the mouth of the corolla; *filaments* hairy; *anthers* incumbent.

*Seeds* 4, naked, smooth and shining. *Style* smooth, about the length of the stamens. *Stigma* forked, the upper fork scarcely discernible; lower one elongated, taper-pointed.

For the opportunity of giving a figure of this rare and handsome plant, we are indebted to Mr. W. Anderson, Curator of the Apothecaries Company's Garden, at Chelsea, where our drawing was taken in August last; and we do not know that it is in any other collection. It is a native of Armenia, Persia, and Siberia, and only requires planting in the open border of the flower garden, in a light rich soil; being quite hardy and of easy culture, makes it a very valuable acquisition to our gardens; but it will be some time before it becomes common, except it produces perfect seeds, which we think it likely to do, especially if some pollen be attached to the stigma when the flowers are in perfection. If seeds are procured, we would recommend their being sown in pots as soon as ripe, and protected in a frame during Winter; as many seeds of hardy perennial plants will grow well and come up soon, if sown as soon as ripe; which, if kept till Spring, will either not grow at all, or be a long time in coming up.

1. Calyx, showing its 5 spreading subulate segments, with its pungent bractes at the base. 2. Corolla spread open, showing the insertion of the stamens with their hairy filaments. 3. The 4 seeds. 4. Style terminated with an unequal forked stigma.

# GLOBULARIA PUNCTATA.

E. D. Smith del.

Sold by R. Sweet Chelsea Nov.1 1823

A. Bailey sculp.

# GLOBULARIA cordifolia.

## *Wedge-leaved Globularia.*

*Natural Order.* GLOBULARINÆ. *Link enum.* 1. *p.* 123.
*GLOBULARIA. Supra, fol.* 20.

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G. *cordifolia,* caule subnudo, foliis cuneiformibus tridentatis: dente intermedio minimo. *Pers. syn.* 1. *p.* 118.
Globularia cordifolia. *Willden. sp. pl.* 1. *p.* 541. *Hort. Kew. ed.* 2. *v.* 1. *p.* 223. *Rœm. et Schult. syst.* 3. *p.* 40. *Jacq. aust.* 3. *p.* 26. *t.* 245. *Lam. ill. gen. t.* 56. *f.* 2.

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*Root* perennial. *Stems* numerous, prostrate, much branched, and extended to a considerable distance, smooth and shining, of a dull purple colour. *Leaves* numerous, crowded, smooth and shining, wedge-shaped, attenuated down the petiole, 3-toothed at the end, the middle tooth very small; margins unequal, rough, but scarcely crenulate. *Petioles* channelled on the upper side, and convex on the lower. *Flower-stalks* naked, or with here and there a small leaf on them, angular, deeply furrowed, with numerous unequal furrows; in our specimen, from 2 to 3 inches long. *Flowers* pale blue, tinged with white. *Involucre* or *Common Calyx* imbricate; *leaflets* rigid, spatulately-lanceolate, obtuse. *Receptacle* paleaceous. *Proper Calyx* tubular, very hairy below the segments, 5-cleft; 2 lower segments broadest, lanceolate, taper-pointed; upper ones subulate. *Corolla* tubular, 2-lipped; upper lip 2-parted, segments very narrow, obtuse; lower lip 3-parted, segments larger, bluntish. *Stamens* 4, inserted in the tube; *filaments* long and slender; *anthers*

incumbent; *pollen* whitish. *Germen* superior. *Style* smooth, scarcely as long as the stamens. *Stigma* 1, very small, capitate. *Seed* 1, enclosed in the persistent calyx.

This pretty little Alpine plant is very proper for ornamenting rock-work, or for planting on a naked bank, where its prostrate branches will grow to some distance, and by its numerous leaves and young branches, will make a pretty green tuft, which, in July and August, will be beautified by its elegant little heads of handsome blue flowers. It may also be grown with advantage in a small pot, where it will bloom very well. It is a native of mountainous and Alpine situations in various parts of Europe, and is quite hardy, thriving best in a light sandy soil, and rather a dry situation, being apt to rot and die at the root, if the ground in which it is planted be too moist. It may be increased by dividing at the root; or cuttings planted under hand-glasses in Spring, will strike root, and make nice young plants by Autumn; when rooted, they should be hardened to the air by degrees; at first, taking off the glass at night and keeping it on by day; they may then be potted, and protected in a dry situation through the Winter.

Our drawing was taken from a plant received from the Nursery of Mr. Knight, of the King's Road.

1. Involucre, showing its chaffy receptacle. 2. Scale of the chaff. 3. Calyx. 4. Corolla split open, showing the insertion of the 4 Stamens. 5. Germen, Style, and Stigma, all slightly magnified.

E D Smith del. Pub by R Furnell Chelsea Nov 1 1823 N Bailey sculp

# GLAUCIUM fulvum.

## *Orange-coloured Horned Poppy.*

*Natural Order.* PAPAVERACEÆ. *DC. Reg. veg. syst. nat. 2. p. 67.*

*GLAUCIUM. Sepala* 2. *Petala* 4. *Stamina* numerosa. *Capsula* siliquæformis, bivalvis, valvulis ab apice ad basin dehiscentibus, bilocularis, placentis nempè dissepimento spongioso cellulari conjunctis, stigmate bilamellato margine incrassato glanduloso demùm quasi bilabiato coronata. *Semina* intra dissepimenti foveolas subnidulantia, scrobiculata, crista glandulosâ destituta, ovato-reniformia.

Herbæ *biennes, sempervirentes, glaucæ, succo croceo acri scatentes.* Radices *perpendiculares.* Folia *radicalia petiolata, caulina sessilia imò amplexicaulia, pinnatim plus minusve incisa, lobis latis obtusis apice interdum mucronulatis.* Pedunculi *axillares et terminales, solitarii, uniflori.* Flores *flavi aut subphœnicei, majores quàm in Chelidonio. DC. p.* 94.

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G. *fulvum,* caule glabro, foliis caulinis rotundato-sinuatis, siliquis scabris, floribus subsessilibus. *DC. loc. cit.*

Glaucium fulvum. *Smith exot. bot.* 1. *p.* 11. *t.* 7. *in Rees cycl. n.* 2. *Willd. enum.* 562. *Hort. Kew. ed.* 2. *v.* 3. *p.* 288. *Link enum.* 2. *p.* 68.

Chelidonium glabrum. *Mill. dict. n.* 5.

Chelidonium fulvum. *Poir. supl.* 5. *p.* 606.

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*Biennial,* or, perhaps, *Perennial. Stems* erect, branching, smooth, or with here and there a hair scattered on them, glaucous, from 18 inches to 2 feet in height. *Leaves* glaucous, thickly clothed underneath with long rigid white hairs, and densely above with shorter ones; lower ones petiolate, pinnatifid, segments more or less lobed, lobes bluntly rounded; upper leaves clasping the stem, cordately auriculate at the

base, broadly ovate, sinuate, sinuses broadly lobed and bluntly toothed, less hairy underneath. *Flowers* shortly peduncled, nearly sessile on the upper part of the stem, of a reddish orange colour, yellow at the base. *Peduncle* opposite to the leaf, short, cylindrical, smooth and glaucous, sometimes terminating with a few white hairs. *Bud* before expansion ovately oblong, tapering to a point, thickly clothed with bristle like hairs. *Calyx* of 2 sepals, which drop off as soon as the flower expands. *Petals* 4, undulate, the 2 outer ones much larger than the others; outer ones orbicular; inner ones obovate, with a yellow spot at the base, and on the yellow spot is a brown mark. *Stamens* above 100, the inner ones longest; *filaments* smooth, yellow, attached to the base of the anthers, which are 2-celled, and open longitudinally to discharge the pollen; *pollen* bright yellow. *Siliqua* rough, occasioned by the small tubercles with which it is covered. *Stigma* sessile, bilamellate, crested with a glandularly thickened margin.

The present handsome plant, a native of the South of Europe, is, by some, considered biennial, by others, perennial; we are inclined to believe it perennial, but very liable to perish in Winter by too much moisture at its roots; this is not so much to be lamented, as it produces plenty of perfect seeds, and the plants raised from these will flower the same Summer; and, if the Autumn prove mild, will also ripen their seeds the same year; it is therefore sold as a hardy annual at the Nurseries.

Drawn at the Nursery of Mr. Colvill, from a plant about 18 inches high, that flowered the first year from seed.

1. Calyx. 2. Stamens, front view. 3. The same split open, to show the longest Stamens in the middle. 4. One detached. 5. The bilamellate Stigma. 6. The rough tubercled siliquiform Capsule.

E. D. Smith. Del.

Pub^d by R. Sweet Nov^r 1, 1823.

# MAZUS rugosus.

## *China Mazus.*

*Natural Order.* SCROPHULARINÆ. *Brown prodr.* 433.
Sect. II. Stamina 4 antherifera.

*MAZUS. Calyx* campanulatus, 5-fidus, æqualis. *Corolla* ringens, labio superiore bilobo, lateribus reflexis; inferiore trifido, lobis integris, basi bigibbosâ. *Stamina* didynama. *Stigma* bilamellatum. *Capsula* inclusa, bilocularis, bivalvis; valvis integris, medio septiferis.

Herbæ *humiles.* Folia *ad radicem conferta, caulina dum ulla opposita.* Scapi *racemoso-multiflori vel uniflori; pedicellis alternis, basi v. medio unibracteatis.* Brown prodr. 439.

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M. *rugosus,* racemo laxo caulem paucifolium superante, calycibus pubescentibus; fructiferis acutis. *Hort. Kew. ed.* 2. *v.* 4. *p.* 53.
Mazus rugosus. *Lour. cochinch.* 385. *Pers. syn.* 2. *p.* 164.
Lindernia japonica. *Willden. sp pl.* 3. *p.* 326. *Pers. syn.* 2. *p.* 166.
Hornemannia bicolor, foliis obovatis basi integerrimis, calycibus patulis pedunculisque glabris. *Willd. enum.* 654. *Link enum.* 2. *p.* 143.
Gratiola goodenifolia. *Hornem. hafn.* 19.

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*Annual. Stems* short, tufted, decumbent, branching in all directions, flexuose, slightly angular, and clothed with short white hairs. *Leaves* opposite, obovate, or sometimes oblong, attenuated to the base, deeply but distantly toothed, rugose, minutely punctate, glossy; nerves and margins slightly hairy. *Racemes* terminal, elongated, many flowered. *Flowers* distant, spreading. *Bractes* small, 1 on each pedicle, a little above the base, lanceolate, taper-pointed, keeled. *Pedicles* flattened, slightly pubescent, a little longer than the calyx.

*Calyx* campanulate, 5-angular, 5-cleft; segments acute, keeled, at first lanceolate, but continuing to grow till they become oblong or ovate, pubescent, spreading. *Corolla* ringent: upper lip small, ovate, 2-lobed, of a bluish purple; lower lip trifid, spreading, with 2 deep channels underneath, and 2 gibbous ridges above, white slightly tinged with blue, and on the ridges and between them are numerous brownish yellow spots, and clubbed hairs, or pedicled glands. *Stamens* 4, 2 longer than the others; *filaments* smooth, attached to the tube; *anthers* twin, at first distinct, but when burst, each pair are attached by the pollen. *Germen* smooth, dotted. *Style* smooth, terminated by a bilamellated stigma.

The present little plant is a native of China; the one from which our drawing was taken, was raised this Spring at the Nursery of Mr. Colvill, from seeds received from the Botanic Garden at Berlin, under the name of *Hornemannia bicolor*. It is a hardy annual; and the plants begin to flower when they are scarcely 2 inches high, and continue to bloom all the Summer, and ripen plenty of seeds, growing in pretty round tufts, the branches spreading prostrate on the ground in different directions. Being of small growth, and spreading flat on the ground, it should be sown at the front of the flower-borders; the proper time for sowing them, is about the middle of April; if sown earlier, they will be liable to be injured by the Spring frost. Though not so showy as some other annuals, it is still very pretty and curious, and causes a variety, which is always interesting.

1. Calyx. 2. Corolla split open, to show the insertion of the stamens. 3. The same, with its point bent back to show the pedicled glands. 4. Shows the 2 ridges in the mouth. 5. Stamen. 6. Germen, Style, and bilamellated Stigma.

E. D. Smith del. Pub. by R. Sweet Chelsea Dec.r 1823 A. Barclay sculp.

# TAXANTHEMA tatarica.

## *Tartarian Sea Lavender.*

*Natural Order.* PLUMBAGINEÆ. *Brown prodr.* 425.

*TAXANTHEMA. Calyx* infundibuliformis, limbo scarioso, 5-plicato, 5-dentato. *Corolla* 5-petala, v. 5-partita. *Stamina* 5, unguibus petalorum inserta. *Styli* 5, rarò 3, distincti. *Capsula* evalvis, membranacea. *Semen* albuminosum. *Spicæ* secundæ, floribus 2-3-bracteatis. Herbæ *v.* Suffrutices. Caule *scapove diviso.* Brown prodr. 426.

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T. *tatarica,* scapo ramoso divaricato; ramis triquetris, floribus distantibus, foliis lanceolato-obovato mucronatis.

Statice tatarica. *Willden. sp. pl.* 1. *p.* 1527. *Pers. syn.* 1. *p.* 333. *Hort. Kew. ed.* 2. *v.* 2. *p.* 182.

Statice foliis lanceolatis mucronatis radicalibus, caule ancipiti dichotomo, floribus alternis distantibus. *Gmel. sibir.* 2. *p.* 223. *t.* 92.

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*Perennial. Root* large, fusiform, branching. *Leaves* lanceolate, or lanceolately obovate, slightly undulate, mucronate, attenuated to the base, into a kind of footstalk; much veined, of a hoary white colour, the base tinged with red, as are the young leaves; margins cartilaginous, roughish. *Flower-stems* several, from a foot to 18 inches in height, 3-sided, very much branched; *branches* 3-sided, flexuose, all leaning one way, paniculately branching, and spreading in all directions, each enclosed at the base by a lanceolate, taper-pointed, keeled bracte. *Spikes* secund, the flowers all leaning to one side, rather distant, alternate, solitary, or in pairs, surrounded by 2 or 3 bractes, one of which is simple, lanceolate, taper-pointed, and keeled; the others 3-forked, and acute, membranaceous at the base. *Calyx* funnel-form, with a scariose, 5-plaited, 5-toothed limb, of a white colour, with

5 green or brown stripes down the tube. *Corolla* of 5 petals, of a lively red; unguis about even with the calyx, limb spreading. *Stamens* 5, inserted in the unguis; *filaments* smooth, attached to the anthers by the back; *anthers* exserted above the mouth. *Styles* 5, thickly clothed with short gland-like hairs. *Stigmas* 5, green, capitate.

Our drawing of this rare and beautiful species was taken from a fine plant, at the Garden of the Apothecaries' Company, at Chelsea; where it thrives well in the open border, and flowers from July to October, some of the flowering branches attaining to the height of 18 inches; it thrives best in a light sandy soil, but is slow of increase, except by seeds, which sometimes ripen. The plants, when grown strong, will sometimes bear dividing, by being carefully cut through the middle, leaving a part of the root to each piece; the best time for doing this is in October, as the plants then make young roots by Spring; if they are divided in Spring, they are very apt to die off, particularly if the weather sets in dry and warm. The seeds should be sown as early as possible, the latter end of February, or beginning of March, if the weather prove mild; if they are sown in pots, and kept in a frame, or the greenhouse, till they come up, they will succeed best; planting them off in other pots, or in a bed of nice light soil as soon as possible, as they are very liable to die off if left too long in the seed-pots.

We have adopted the genus *TAXANTHEMA*, of Necker, from Mr. Brown's Prodromus; the original genus *STATICE* of Tournefort, which we adopt, is composed of the section *ARMERIA*; the division is also adopted by the German Botanists, but they have used *ARMERIA* for a generic name, and continued *STATICE* to the spiked species.

**1. The 3-forked Bracte. 2. Calyx. 3. Corolla spread open, showing the insertion of the Stamens at the base of the petals. 4. Petal separate, with the Stamen inserted in its base. 5. Germen terminated by the 5 Styles and capitate Stigmas.**

E D. Smith. del

Pub^d by R. Sweet. Chelsea. Dec^r 1. 1823.

# DRACOCEPHALUM canescens.

## *Hoary-leaved Dragon's-head.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.

Sect. IV. Stamina 4-fertilia. Corolla bilabiata. Calyx bilabiatus. *Juss. gen.* 115.

*DRACOCEPHALUM. Calyx* 5-fidus, 2-labiatus *in Moldavicâ T.* subæqualis in cæteris. *Corolla* fauce inflata, labiata, superius forniçata, integra *in Dracocephalo T.* emarginata in aliis, inferius 3-loba, laciniis lateralibus brevibus erectis, media majore et productiore, integrâ aut 2-lobâ. *Herbæ aut rarò suffrutices; flores verticillato-spicati terminales, aut pedunculi axillares uni vel multiflori, bracteati bracteis latis interdùm ciliatis, in* D. Virginiano *angustis minimis.* Juss. gen. 116.

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D. *canescens,* floribus verticillatis, bracteis oblongis ciliatis, foliis oblongis canescentibus: inferioribus serratis; superioribus integerrimis, calycibus striatis pubescentibus, tubo corollæ calyce longiore.

Dracocephalum canescens. *Willden. sp. pl.* 3. *p.* 156. *Pers. syn.* 2. *p.* 133. *Hort. Kew. ed.* 2. *v.* 3. *p.* 420.

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*Annual. Stem* nearly erect, or ascending, bluntly 4-sided, much branched; *branches* opposite, crossing each other, clothed with a short white pubescence. *Leaves* opposite, petiolate, oblong, blunt, strongly and numerously nerved underneath, covered on both sides with a short close canescent pubescence; lower ones broadest, and serrated; upper ones narrower, and entire, becoming nearly linear on the upper part of the stem. *Flowers* in whorls round the stem, of a bright violet blue. *Bractes* 4, at the base of each whorl, petiolate, oblong, or ovate, concave, and fringed with spine like bristles. *Pedicles* short, compressed,

pubescent. *Calyx* 5-cleft, striated, pubescent, upper segment double the width of the others, bluntish; lower ones taper-pointed, mucronate. *Corolla* tubular, inflated at the mouth, 2-lipped; upper lip emarginate, concave, doubling in so as to enclose the stamens; lower lip 3-lobed, end lobe very broad, emarginate, recurved, side ones short and blunt, rounded. *Stamens* 4, inserted in the mouth, 2 a little longer than the others, declining: *filaments* bearded at the base, and smooth from about the middle; *anthers* incumbent. *Style* smooth and glossy. *Stigma* 2-cleft, with acute points.

A beautiful hardy annual, native of the Levant, and seldom now to be met with in any collection, which is rather surprising, as it is much more showy than many others that are now generally cultivated; it only requires to be sown in the open borders in the common garden soil, and to be kept clear of weeds; the best time for sowing the seeds is the beginning of March, if the weather proves favourable; the plants will then get strong, and flower abundantly all the latter part of Summer.

A patch of these plants were grown this last Summer at the Nursery of Mr. Colvill, from whence our drawing was made. They grew to the height of from 18 inches to 2 feet, branching on every side, and were covered with flowers nearly the whole of their length at the same time, which made an elegant appearance. Our Figure cannot do justice to the original for want of room; but from it may be inferred what the plants really were.

1. The fringed Bracte. 2. Calyx. 3. Corolla spread open, to show the insertion of the Stamens. 4. Stamen detached. 5. Style, and cleft Stigma. 6. The 4 naked Seeds.

E D Smith del. Pub. by R. Sweet Chelsea Dec.r 1 1823 A Bailey sculp.

# CALENDULA hybrida.

## *Great Cape Marygold.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.

*CALENDULA. Flores* radiati; flosculi centrales masculi, ambientes hermaphroditi; ligulæ fœmineæ. *Involucrum* simplex polyphyllum æquale. *Receptaculum* nudum. *Pappus* nullus. *Semina* sæpè membranacea; marginalia diversa ab interioribus, incurva sub ligulis luteis *in C. Europeis,* aut *in C. Africanis* cordato-plana sub ligulis albo-violaceis. Flores *sæpè solitarii terminales. Species plurima fruticulosa.*

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C. *hybrida,* foliis oblongo-lanceolatis obtusis dentatis, caule folioso, pedunculis superne incrassatis. *Willden. sp. pl.* 3. *p.* 2342.

Calendula hybrida. *Pers. syn.* 2. *p.* 492. *Hort. Kew. ed.* 2. *v.* 5. *p.* 167. *Schkuhr handb.* 3. *p.* 173. *t.* 264.

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*Root* annual. *Stem* about a foot high, much branched; *branches* spreading in all directions, of a purplish colour, thickly clothed with short white spreading unequal hairs, as are the leaves, peduncles, and calyx. *Leaves* sessile; lower ones spatulately oblong, obtuse, rather carnose, and toothed here and there with large blunt teeth; upper ones alternate, narrower, and more acute, oblong, or lanceolate, and toothed on each side with 1 or 2 smaller pointed teeth. *Peduncles* terminal, gradually increasing in size upwards, much thickened just below the flower, and particularly when in fruit; 1-flowered. *Involucre* simple, many-leaved; *scales* nearly equal, linearly-lanceolate, taper-pointed, with fringed membranaceous margins. *Receptacle* slightly convex, naked, dotted. *Ligulæ,* or *Rays,* fertile, densely fringed at the base

with long white hairs, and terminated at the point with 3 short teeth; upper side pure white; the under side of a bright purple, or violet, bearing no stamens, but a filiform style, and purple bifid stigma; *florets in the centre* tubular, 5-cleft, hairy at the base, barren, only producing stamens; *outer ones* fertile, also 5-cleft, bearing both stamens and pistils. *Stamens* 5; *filaments* distinct; *anthers* connected into a tube. *Style* extending just above the stamens. *Stigmas* 2, blunt, fringed. *Seeds from the ray* spatulate, rugose; *those from the disk* obcordate, with a thin membranaceous margin.

A very handsome hardy annual, only requiring to be sown in the open borders, and to be kept clear of weeds. It must not be sown too early in the Spring, being a native of the Cape, as the Spring frosts would be liable to injure it; the latter end of April, or beginning of May, according as the weather suits, is the best time for sowing the seeds; they will then flower from July to October, if the season continue mild, and will ripen plenty of seeds.

Our drawing was taken at the Nursery of Mr. Colvill, where the plants were about 15 inches in height, and very bushy; and they continued in flower this year till the end of October.

1. Involucre cut through the middle, to show the dotted receptacle. 2. Floret of the ray, showing its 2 stigmas. 3. Fertile floret of the disk. 4. The same laid open, showing its nerves alternating with the teeth. 5. The 5 Stamens spread open, to show the united anthers, and distinct filaments. 6. Style of the floret of the disk, crowned with its fringed stigmas. 7. Seed from the ray. 8. Seed from the disk.

E. D. Smith del. Pub. by R. Jennet Chelsea Dec.r 1823 A. Lumley sculp.

# MALCOMIA Chia.

## *Dwarf branching Malcomia.*

*Natural Order.* CRUCIFERÆ. *DC. Reg. veg. syst. nat. v.* 2. *p.* 139.

*Subordo II. NOTORHIZEÆ. DC. p.* 150.

*Cotyledones* planæ, incumbentes. *Radicula* dorsalis. *Semina* ovata, immarginata.

*Tribus VII. SISYMBREÆ* seu *NOTORHIZEÆ SILIQUOSÆ. Siliqua* bilocularis longitudinaliter dehiscens, valvis concavis carinatisve. *Semina* ovata aut oblonga, immarginata. *Cotyledones* planæ, incumbentes, septo contrariæ.

*MALCOMIA. Calyx* clausus, nunc basi bigibbus, nunc subæqualis. *Petala* limbo obovata aut obtusissimè emarginato. *Stamina* tetradynama, libera, edentula. *Siliqua* teres, 2-locularis, 2-valvis, stigmate acutissimo simplici terminata. *Semina* ovata, 1-serialia, immarginata. *Cotyledones* planæ, incumbentes. Herbæ *annuæ aut perennes, pilis stellatis sæpius scabræ aut velutinæ.* Folia *oblonga aut ovalia, integra dentata aut sinuato-pinnatifida.* Pedicelli *in racemum digesti, ebracteati.* Flores *purpurascentes aut albi, interdum minimi, in hortis non duplices evadunt.* DC. p. 438.

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M. *Chia*, caule erecto ramoso, foliis obovatis integris pube bipartitâ adpressâ, pedicellis calycis longitudine, siliquis teretiusculis pubescentibus, stylo brevissimo. *DC. p.* 440.

Malcolmia Chia. *Link enum. p.* 167.

Cheiranthus Chius. *Lin. sp.* 924. *Mill. dict. n.* 13. *Willd. sp. pl.* 3. *p.* 518.

Hesperis Chia. *Lam. dict.* 3. *p.* 324. *Pers. syn.* 2. *p.* 203.

Hesperis siliquis hirsutis flore parvo rubello. *Dill. elt.* 180. *t.* 147. *f.* 178.

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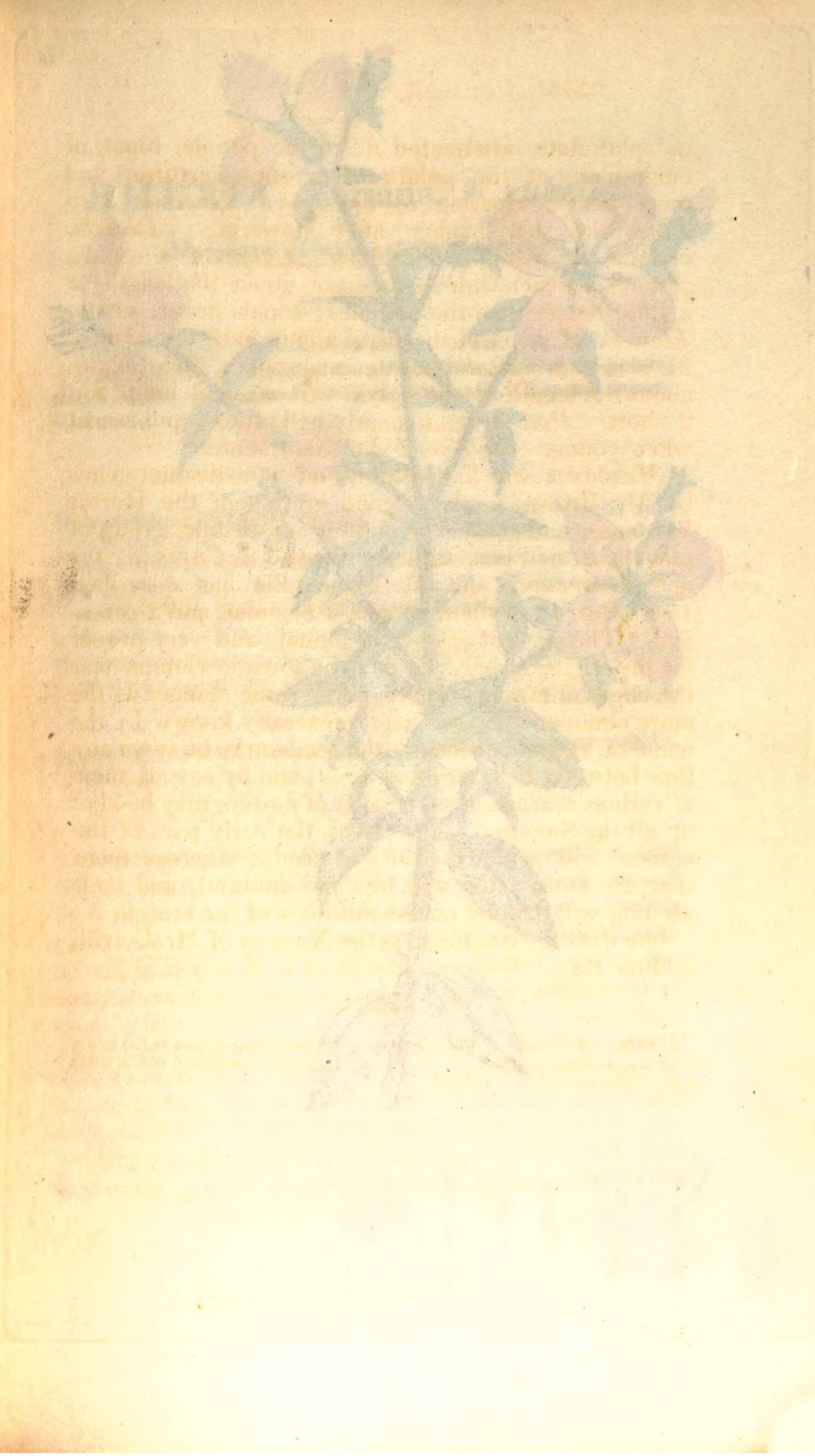
*Annual. Root* slender, small, fibrous. *Stems* much branched, from 6 to 12 inches high, cylindrical, pubescent, the hairs close-pressed, and affixed by their middle. *Leaves* pubescent underneath, the hairs 2-parted, entire, or rarely toothed; lower ones obovate,

or spathulate, attenuated down the petiole, blunt, or emarginate at the point; stem ones narrower and more acute, tapering to the base. *Racemes* 3 to 9-flowered, lengthening after flowering. *Pedicles* cylindrical, about 3 lines long. *Calyx* of 4 sepals, gibbous on each side at the base, about the length or a little longer than the pedicles; sepals linear, acute. *Flowers* of a purplish lilac, about half the size of M. *maritima*; *petals* obovate, emarginate, their ungues about the length of the calyx. *Stamens*, 4 long, and 2 short. *Pod* straight, nearly cylindrical, pubescent when young. *Style* very short and acute.

*Malcomia* was first established as a distinct genus by Mr. Brown, in the second edition of the Hortus Kewensis, and contains a natural and distinct group of plants that had been hitherto referred to *Cheiranthus* and *Hesperis*; and M. Decandolle has described 15 species, 12 of them annual, 1 biennial, and 2 perennial. The present species is annual, and very proper for the edging of borders, or to be sown in clumps near the edges of flower borders, in the same manner as the more common M. *maritima*, (generally known by the name of Virginian Stock;) the seeds may be sown any time between February and June; and by sowing them at various seasons, a succession of flowers may be kept up all the Summer; those sown the early part of the season, will produce plenty of seeds; whereas them that are sown later, will be more doubtful, and their seeding will depend on the mildness of the season.

Our drawing was taken at the Nursery of Mr. Colvill, in June last.

1. Calyx. 2. Petal. 3. The 6 Stamens with the young Siliqua in the midst of them. 4. Stamen detached. 5. The young Siliqua terminated with a short acute Style, all slightly magnified.



E D Smith del. Pub by R Sweet Chelsea Jan^y 1 1824 A Bacley sculp

# RHEXIA mariana. β. *rubella.*

## *Maryland Rhexia, stained variety.*

*Natural Order.* MELASTOMACEÆ. *Juss. gen.* 328.

*RHEXIA. Calyx* urceolatus, quadrifidus. *Corolla* 4-petala, calyci inserta. *Stamina* 8, antheris declinatis. *Capsula* setosa, 4-locularis, intra ventrem calycis.

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R. *mariana,* caule rufescente hirsutissimo, foliis hirsutis subpetiolatis ovali-lanceolatis lanceolatis linearibusve, calyce longo tubuloso glabriusculo. *Pursh. flor. amer. sept.* 1. *p.* 257. Rhexia mariana. *Mich. fl. amer.* 1. *p.* 221. *Willden. sp. pl.* 2. *p.* 301. *Pers. syn.* 1. *p.* 406. *Hort. Kew. ed.* 2. *v.* 2. *p.* 340. *Lamarck ill.* 283. *f.* 1.

α. *purpurea,* foliis angusto-lanceolatis vel oblongis, floribus saturate purpureis. *Mich. l. c.*

β. *rubella,* foliis ovali-lanceolatis vel oblongis, floribus dilute rubellis. *Mich. l. c.*

γ. *exalbida,* foliis linearibus, caule hirsutiore, floribus pallidis. *Mich. l. c.*

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*Root* perennial. *Stems* numerous, about a foot high, much branched; *branches* spreading in all directions, bluntly quadrangular, furrowed, thickly clothed with brown spreading rigid hairs, tipped with a red gland. *Leaves* opposite, 3-nerved, finely but sharply serrate, hairy on both sides, bluntish; lower ones oval, or oblong, gradually narrowing upwards; upper ones lanceolate, or linear. *Petioles* very short. *Flowers* terminating the branches in a kind of panicle, more or less tinged with red. *Peduncles* short and stiff, smooth. *Calyx* urceolately tubular, 4-cleft, angular, smoothish, with a few rigid hairs scattered on it here and there; segments ovate, acute, spreading.

*Petals* 4, inserted in the calyx, spreading. *Stamens* 8, inserted in the calyx; *filaments* flat, smooth; attached to the anthers a little above their base; *anthers* linear, declining, with a sharp subulate spur at the back, just above the filament. *Style* smooth, green, terminated by a papillose capitate stigma.

This rare and handsome species is a native of North America, growing, according to Pursh, in bogs, and sandy woods, near waters, from New Jersey to Carolina, and flowering in July and August; with us it requires as warm a border as possible, and to be planted in a bed of peat earth; it will then thrive well, and flower late in Autumn; if it is not planted in a warm situation, it is a great chance if it flower at all; and, certainly not, except it be a very warm season, though the plant itself is quite hardy, enduring our most severe Winters without any protection, and attaining about a foot in height. Its time of flowering with us, if in a favourable situation, is from the latter end of August, till November, if the weather prove mild. Our drawing of the present specimen, was taken at the Nursery of Mr. Colvill, in October last.

We are inclined to think that more than one species is, at present, confused under R. *mariana*, from the disagreement of the descriptions of different Authors, and the varieties that are enumerated; we have never seen the least variation in our cultivated plants. The best method of propagating it is by dividing it at the root; or young cuttings planted under a hand-glass in peat soil, will strike root freely.

1. Calyx. 2. Petal. 3. Calyx spread open, showing the insertion of the Stamens. 4. Stamen detached. 5. Anther detached from the filament, showing the spur at the base. 6. Germen, Style, and Stigma.

E D Smith del

Pub by R Sweet Chelsea Jan.y 1 1824

A Bailey sculp

# NEOTTIA cernua.

## *Nodding-flowered Neottia.*

*Natural Order.* ORCHIDEÆ. *Brown prodr.* 309.

Sect. II. MONANDRÆ. *Anthera* stigmati parallela, persistens, loculis approximatis. *Pollinis massæ* pulvereæ, in granula (simplicia) facilè solvendæ, apice affixæ filo a stigmatis glandulâ ortum ducenti. *Herbæ Terrestres. Brown. prodr.* 314.

*NEOTTIA. Perianthium* ringens; foliolis *exterioribus* anticis labello imberbi suppositis; *interioribus* conniventibus. *Columna aptera. Pollen* farinaceum. *Brown.*

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N. *cernua*, bulbis fasciculatis, foliis lanceolatis trinerviis, caule vaginato, spica spiraliter subimbricata pubescente, floribus recurvato-cernuis, labello oblongo integro crenulato.

Neottia cernua. *Willden. sp. pl.* 4. *p.* 75. *Pers. syn.* 2. *p.* 511. *Hort. Kew. ed.* 2. *vol.* 5. *p.* 199. *Pursh. fl. amer. sept.* 2. *p.* 589. *Botan. magaz.* 1568.

Ophrys cernua. *Linn. sp. pl.* 1340. *Mich. fl. bor. amer.* 2. *p.* 158.

Limodorum autumnale. *Walter fl. car. p.* 221.

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*Perennial. Roots* composed of a fascicle of oblong bulbs, or tubers. *Stems* several, from a strong plant. *Leaves* lanceolate, acute, 3-nerved, attenuated at the base, sheathing the stem, smooth and glossy. *Scapes* in our specimen about 18 inches in height, leafy, smooth on the lower part, and densely pubescent on the upper. *Spikes* oblong, from 4 to 6 inches in length, densely pubescent between the flowers. *Flowers* white, fragrant, spirally arranged, nodding; the upper ones scarcely half the size of the lower ones. *Bractes* lanceolate, taper-pointed, concave, ciliated with glandular hairs, double the length of the germen, points

curved inwards. *Germen* ovate, narrowed at the base, hairy, the hairs tipped with small glands. *Perianthium* ringent, thickly clothed on the outside with pellucid glandular hairs; *three outer leaflets* lanceolate, taper-pointed; the upper one stuck to the 2 inner ones for more than half their length, points of the lateral ones bent inwards; *two inner ones* concave, connivent, and blunter. *Labellum* oblong, not divided into lobes, more or less acute, margins undulate, crenulate. *Column* green, not winged. *Anther* 1, attached to the point of the stigma, and covered with a brown taper-pointed hood.

A very rare and interesting plant, native of North America; its flowers are delightfully fragrant, and they last a long time in beauty; the present specimen having been in bloom from the beginning of August, to the middle of November. It appears to be more free of growth than the plants belonging to this family generally are, as it thrives well in a border of very sandy loam, and appears to be making offsets freely; but we expect it will yet be some time before it becomes common, except others are imported from America. We expect many more species of this interesting family from that country shortly, as Mr. Colvill has applied to a Correspondent there, to send all the species that can be collected; and he has received notice that he may soon expect them, with many other curious plants.

Drawn at the Nursery of Mr. Colvill, in September last.

1. Bracte. 2. The 3 outer leaflets of the Perianthium. 3. The 2 inner ones. 4. The Labellum, showing its crenated margin. 5. The Germen divested of the Perianthium, showing the column, with the Anther in front, covered with its brown hood. 6. The same divested of the hood, the Anther exposed to view. 7. The same divested of the Anther. 8. Inner view of the Anther. 9. The Hood with which the Anther was covered, all highly magnified.

E D Smith del

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A Bailey sculp

# IMPATIENS biflora.

## *Two-flowered Touch me not.*

*Natural Order.* BALSAMINEÆ.

*IMPATIENS. Calyx* 2-sepalus. *Corolla* 5-petala, hypogyna, irregularia et inæqualia; superius latius fornicatum; inferius breve basi calcaratum; lateralia seu interiora 2 basi appendiculata aut interdum bipartita. *Stamina* 5 hypogyna, filamentis brevibus primò monadelphis, dein maturatione distinctis, antherarum persistente supernâ coalitione. *Germen* 1; *stylus* 0; *stigma* acutum. *Capsula* oblonga 5-locularis polysperma 5-valvis, elasticè dissiliens valvis in spiram intortis, dissepimentis membranaceis ex receptaculo columnari centrali seminifero enatis et valvularum margini appositis; corculum seminis rectum absque perispermo.

Herbæ; *folia alterna aut rariùs opposita, non stipulacea; pedunculi axillares uni aut multiflori. Genus, anteà Papaveraceis adjectum, simile calyce 2-phyllo et corollâ 4-petalâ et stylo nullo, sed discrepans antheris definitis et connatis, fructu multiloculari et multivalvi, receptaculo centrali et foliis interdum oppositis. Extùs convenit Geraniis Africanis similiter calcaratis, sed huic ut et Tropæolo calcar liberum, non pedicello inhærens ut in Geraniis; diversa insuper staminum et fructûs et seminis structura. Genus ergò sui ordinis nunc verè unicum. An pro calyce habenda petala 2 exteriora, calycis munus jam obeuntia in flore nondùm explicato?* Juss. gen. 270.

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1. *biflora*, pedunculis plerumque bifloris solitariis, foliis ovatis argute dentatis. *Pursh. fl. amer. sept.* 1. *p.* 171.

Impatiens biflora. *Willd. sp. pl.* 1. *p.* 1175. *Walt. flor. car.* 219. *Pers. syn.* 1. *p.* 257. *Hort. sub. lond.* 47.

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*Annual. Stem* upright, 2 to 3 feet high, rather flexuose, tumid at the joints, much branched, smooth and glossy; *branches* spreading in all directions, flexuose, of a glossy purple, angular. *Leaves* ovate, acute, sharply toothed with short teeth, longer, and sharper at the base, reticulately veined underneath, and furrowed on the upper side, soft and tender, soon

withering after being gathered. *Petioles* smooth, flattened and furrowed on the upper side, and convex on the lower. *Peduncles* axillary, very slender, generally 2-flowered, continuing to grow till the seeds ripen. *Pedicles* filiform, with a small subulate bracte about the middle of each. *Calyx* of 2 sepals, which are roundly ovate, acute, concave, of a membranaceous texture, with a strong green midrib. *Flowers* pendulous, of a dark yellow, spotted with red on the inside. *Petals* unequal, irregular. *Nectary* cowl-shaped, terminated in a blunt spur. *Stamens* 5; *filaments* short and stout, at first connected, but after the flower is expanded, distinct; *anthers* 5, connected; *pollen* cream-coloured. *Germen* smooth and glossy, crowned with an acute *stigma*. *Capsule* 5-valved, when ripe opening with an elastic spring as soon as touched, the seeds springing out, and the valves of the capsule rolling up.

This very curious annual plant is a native of North America, and is mentioned by Mr. Pursh as growing in wet shady places, from Canada to Carolina. It is quite hardy, and only requires to be sown in the open ground, about the latter end of March, or beginning of April, if the weather is mild, requiring a dampish shady situation, where it will grow to the height of 3 feet, or upwards, and will continue to flower till destroyed by the frost in Autumn; if in a dry exposed situation, it will not grow near so strong, nor last so long in flower. A peculiar property belongs to this plant, and the others belonging to this genus, in the elasticity of their capsules; when the seeds are nearly ripe, if the capsules are ever so lightly pressed, they immediately burst, the valves rolling up, and the seeds springing to a distance, so that it requires much care to procure them.

Our drawing was taken at the Apothecaries' Company's Garden, at Chelsea, in September last.

1. Calyx. 2. Corolla spread open, showing the insertion of the petals. 3. Stamens, spread open to show the connected anthers, and the insertion of the filaments. 4. Germen terminated with an acute Stigma. 5. Capsule burst open, all magnified except the last.

E Dalton Smith del

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A Bailey sculp

# LIATRIS squarrosa.

## *Squarrose-cupped Liatris, Rattlesnake's Master.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.

*LIATRIS. Receptaculum* nudum. *Pappus* plumosus, coloratus. *Involucrum* oblongum, imbricatum.

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L. *squarrosa,* caule simplici pubescente, foliis linearibus nervosis scabris, racemis paucifloris foliosis, involucris turbinatis; squamis lanceolatis obtusis rigidis patentibus.

Liatris squarrosa. *Willden. sp. pl.* 3. *p.* 1634. *Pers. syn.* 2. *p.* 403. *Hort. Kew. ed.* 2. *v.* 4. *p.* 503. *Pursh. flor. amer. sept.* 2. *p.* 509.

Serratula squarrosa. *Hort. cliff.* 392.

Cirsium tuberosum, capitulis squarrosis. *Dill. elth.* 83. *t.* 71. *f.* 82.

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*Root* perennial, tuberous. *Stem* simple, from 18 inches to 2 feet high, pubescent. *Leaves* long, linear, rough, particularly at the edges, slightly pubescent, nerved underneath; *stem-leaves* narrower, those near the flowers shorter, broader at the base, and tapering to the point. *Racemes* leafy; *flowers* distant from each other, the lower ones on long peduncles, upper ones shorter; terminal flower expanding first, the others gradually opening downwards, of a bright purple colour. *Peduncles* purplish, rough, pubescent, gradually thickening upwards, and tapering to the base, leafy. *Involucre* turbinate, many-leaved, imbricate; scales lanceolate, obtuse, roughish, finely ciliate, spreading; upper ones coloured at the points. *Receptacle* naked, convex, punctate. *Florets* numerous, tubular, 5-cleft; tube about the length of the pappus; laciniæ lanceolate, acute, about half as long as the tube. *Stamens* 5, inserted in the middle of the tube; *filaments* slender, distinct, smooth; *anthers* connected

by a thin membrane at the base, but distinct at the points. *Style* smooth, longer than the tube of the floret, terminating in two long purple ligulate stigmas, about the length of the style. *Seeds* furrowed, very hairy, crowned with a pencil-like pappus of purple feathered hairs.

Our drawing of this rare and beautiful plant was taken in October last, at the Nursery of Mr. Knight, in the King's Road. It is a native of North America; Pursh mentions it as growing in sandy woods and fields, in Virginia, Kentucky, and Carolina, " where it, and L. *scariosa* are known among the inhabitants of those countries by the name of *Rattlesnake's Master*. In case of being bit by this horrible animal, they bruise the bulbs of this plant, and apply it to the wound; while, at the same time, they make a decoction of it in milk, which is taken inwardly."

When grown in a rich light soil, this species will attain the height of 2 feet, or upwards; but it is very liable to perish in Winter, from its roots receiving too much moisture, the only reason we can account for its present scarcity, having been known in our gardens as far back as the year 1732. Its flowering so late in the season, is also much against its increase, as it seldom perfects its seed in this country; but this might be easily remedied, if a plant be grown in a pot, and placed in a greenhouse just as its flowers are opening, and, as they expand, to attach some pollen to the stigmas, there can be no doubt but they will seed freely; as we have found it to succeed well with L. *scariosa*, and L. *pilosa*. As soon as ripe, the seeds should be sown in pots of light sandy soil; they will then come up strong in Spring, and some of them will flower the following Autumn.

1. Involucre with its front scales taken off, to show the naked dotted receptacle. 2. Floret enclosed by the pappus of the seed. 3. The same split open, to show the nerves. 4. Stamens spread open, showing the distinct filaments, and united anthers. 5. Style and Stigmas. 6. Seed terminated by its pencil-like pappus.

E Dalton Smith del

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A Bailey sculp

# SCUTELLARIA orientalis.

## *Yellow-flowered Skull-cap.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.
Sect. II. B. Calyx bilabiatus.

*SCUTELLARIA. Calyx* bilabiatus, ebracteatus, labiis integris, superiore intùs fornicato, extùs apice gibbo; fructus clausus. *Corolla* ringens, galeâ subtridentatâ, labii inferioris laciniâ mediâ emarginatâ.

Herbæ *v.* Suffrutices. Flores *axillares, solitarii v. terminales, spicati.* Brown prodr. 507.

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S. *orientalis,* foliis incisis subtus tomentosis, spicis rotundato-tetragonis. *Willden. sp. pl.* 3. *p.* 171. *Enum. supp.* 42. *Hort. Kew. ed.* 2. *v.* 3. *p.* 426. *Link enum.* 2. *p.* 120. *Botan. magaz.* 2120.

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*Perennial. Stems* of a woody texture at the base, spreading, ascendent, much branched; *branches* spreading, of a purple colour, pubescent. *Leaves* opposite, ovate or oblong, obtuse, incised or deeply toothed, with blunt rounded teeth, underneath clothed with a dense white tomentum. *Petioles* shorter than the leaves, pubescent. *Spikes* roundly 4-sided, from 2 to 4 inches in length. *Bractes* sessile, ovate, concave, pointed, much veined, villous. *Pedicles* short, villous, close-pressed to the stem. *Calyx* very small, 2-lipped, very hairy; *lips* entire, the upper one forming a kind of cap, and enclosing the seeds. *Corolla* tubular, ringent, villous, of a yellow colour, the helmet tinged with red, lower lip reflexed on each side. *Stamens* 4, inserted in the tube, 2 rather longer than the others; *filaments* declining, slightly hairy at the

base, and smooth at the points; *anthers* hairy. *Style* smooth, about the length of the stamens. *Stigma* a small simple point.

A pretty herbaceous perennial, which produces an abundance of flowers, continuing to bloom from July to October; and only requires to be planted in the open ground, in a rich light soil; but we believe it not to be a long lived plant, and must, consequently, be frequently renewed either by seeds or cuttings; if by the latter, they will strike root readily, taking off the young shoots and planting them under a common hand-glass in the open ground; but care must be taken not to let the glass remain on them too long, or they will be apt to damp; as soon as they begin to root, a little air must be given them, encreasing it by degrees, till the plants are well rooted; they may then be planted where they are to remain. If raised from seeds, they may either be sown in pots, or in the open ground; and the sooner they are transplanted where they are to remain the better, as they do not miss their removal when young, but when grown larger, they are likely to wither and not do so well; the same observation is suitable to most herbaceous plants.

A native of the Levant; of low stature, seldom attaining a foot in height, and, therefore, proper for the front of flower borders. Our drawing was taken at the Apothecaries' Company's Garden, at Chelsea, in August last.

1. Calyx, highly magnified, the upper part turned back, to show the 4 naked seeds. 2. Corolla spread open, to show the insertion of the filaments. 3. Stamen detached. 4. Style, and simple Stigma.

E. Dalton, Smith, Del.

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# MATHIOLA tricuspidata.

## *Three-forked Stock.*

*Natural Order.* CRUCIFERÆ. *DC. Reg. veg. syst. nat. v.* 2. *p.* 139.

*Subordo.* I. *PLEURORHIZEÆ. DC. p.* 146.

*Cotyledones* planæ, accumbentes. *Radicula* lateralia. *Semina* compressa.

*Tribus* I. *ARABIDEÆ* seu Pleurorhizeæ Siliquosæ. *Siliqua* dehiscens, septo lineari seminibus plus minus latiore. *Semina* ovalia, compressa, sæpe marginata. *Cotyledones* planæ, accumbentes, septo parallelæ.

*MATHIOLA. Calyx* erectus, basi bisaccatus. *Petala* unguiculata, limbo patente obovato aut oblongo. *Stamina* libera, edentula, longiora subdilatata. *Siliqua* teres vel compressa, elongata, bilocularis, bivalvis, stigmate connivente bilobo, lobis dorso vel incrassatis vel cornigeris. *Semina* compressa, 1-serialia, sæpius marginata. *Cotyledones* planæ, accumbentes. Herbæ *aut rarissimè* suffrutices, *erectæ aut diffusæ, ramosæ, fere omnes tomento stellato molli albidæ, interdum glandulis subpedicellatis scabræ.* Folia *alterna, oblonga, integra aut dentato-sinuata.* Racemi *terminales.* Pedicelli *ebracteati.* Flores *purpurei aut albi aut sordidè purpurascentes, tristes, sæpiùs odorati.* DC. p. 162.

*Sect.* IV. *ACINOTUM. Petalorum* laminæ obovatæ obtusæ aut emarginatæ, lætè purpureæ aut albæ. *Siliqua* apice tricuspidata, stigmatum dorsis nempè in cornua exsertis. *DC. p.* 175.

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M. *tricuspidata,* caule suberecto ramoso, foliis sinuato-pinnatifidis, siliquæ cuspidibus 3 acutis subæqualibus. *DC. loc. cit.*
Mathiola tricuspidata. *Brown hort. kew. ed.* 2. *v.* 4. *p.* 120. *Hort. sub. lond.* 147.
Cheiranthus tricuspidatus. *Willden. sp. pl.* 3. *p.* 523. *Sibth. fl. græc. t.* 639. *Schkuhr. handb.* 2. *p.* 250. *t.* 184.

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***Root*** annual, slender. *Stems* much branched, spreading in various directions, cylindrical, attaining a foot, or 18 inches in height, thickly clothed with branching woolly hairs; *branches* flexuose, ascending.

*Leaves* oblong, obtuse, slender at the base; those near the root repandly-dentate, or slightly sinuate; stem ones more divided, sinuately pinnatifid; sinuses obtuse, tomentose. *Racemes* terminal, flexuose, many-flowered. *Pedicles* tomentose, about a line long, at first erect, afterwards spreading. *Flowers* of a bright lilac, light at the base. *Calyx* of 4 sepals, about 4 lines long, tomentose, swollen into 2 little pouches at the base. *Petals* 4, alternate with the sepals, limb obovate, or obcordate, at first of a pale lilac, afterwards becoming darker; claw slender, about the length of the calyx. *Stamens* 6, unequal; *filaments* 2, very short, and straight; 4 longer, with a small tooth on one side, running down in a wing to the base; *anthers* linear, 2-celled. *Siliqua* nearly round, tomentose. *Stigma* lengthening out into 3 points, or horns, the middle one erect, the others spreading.

The present genus was first established by Mr. Brown, in the second edition of the Hortus Kewensis, and contains all the different species of Stocks, which were before that time arranged with *Cheiranthus*, (or the Wall-flowers.) M. Decandolle enumerates 27 species, which he divides into 4 Sections, or Sub-genera. The present species belongs to his last Section, distinguished from the others by its horned stigma, and obovate petals; it is a very pretty annual plant, native of the sandy shores of the Mediterranean, and of the South of Europe, growing, with us, to the height of a foot, or 18 inches, and requires no other treatment but to be sown early in Spring, in the open ground, in as light a soil as possible, and to be kept free from weeds.

Drawn at the Nursery of Mr. Colvill, in September last.

1. Calyx. 2. Petal. 3. Stamens, 4 long, and 2 short. 4. One detached, to show the small tooth in the middle of the filament, running down in a wing to the base. 5. Siliqua spread open, to show the seeds, terminated by 3 points, or horns. 6. Seed.

E. Dalton Smith del. Pubr by R. Sweet Chelsea Feb.y 1 1824 S. Bailey sc.

# DRACOCEPHALUM argunense.

## *Fischer's Dragon's-head.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.
*DRACOCEPHALUM. Supra fol.* 38.

D. *argunense,* floribus verticillato-spicatis subcapitatis, foliis lineari-lanceolatis obtusis integerrimis margine scabris, bracteis elliptico-lanceolatis acuminatis.
Dracocephalum argunense. *Fischer Mss. Link enum.* 2. *p.* 118.

*Perennial. Stems* several from the same root, branching a little, obtusely 4-sided, pubescent, from a foot to 18 inches in height. *Leaves* linearly lanceolate, entire, bluntish, with rough edges, attenuated into a kind of footstalk at the base, smooth and glossy on the upper, and slightly pubescent on the lower side. *Flowers* in a whorled spike, terminated in a kind of head, of a bright blue colour. *Bractes* 4, at the base of each whorl, elliptically lanceolate, taper-pointed, entire. *Pedicles* short and flat, slightly pubescent. *Calyx* 5-cleft, striated with numerous shallow furrows; segments lanceolate, acute, of a purplish colour, upper one more than double the size of the others. *Corolla* tubular, inflated at the mouth, 2-lipped, hairy within and without; upper lip, or helmet, emarginate, concave, very hairy on both sides; lower lip 3-lobed; end lobe very broad, obcordate, sides doubled in, spotted inside with numerous small purple spots; side lobes small, rounded, sides reflexed. *Stamens* 4, inserted in the mouth, 2 a little longer than the others, declining; *filaments* bearded with long white hairs,

particularly the upper ones, and terminating in a blunt point, the anthers attached below it; *anthers* incumbent, also bearded. *Style* smooth and glossy. *Stigma* 2-cleft, ending in 2 unequal points. *Seeds* 4, rugged.

For the opportunity of giving a figure of this new and beautiful plant, we are obliged to Mr. William Anderson, the worthy Curator of the Garden belonging to the Apothecaries' Company, at Chelsea; a collection particularly rich in hardy herbaceous plants. The present species was raised from seeds, received by Mr. Anderson from Dr. Fischer. It is a native of Siberia, and thrives well in the open borders, flowering from July to October, and attaining the height of a foot, or 18 inches, according to the strength of the soil; scarcely any plant can be better adapted for the borders of the flower garden; and as it spreads but little, it needs little room. Young cuttings of it, planted under hand-glasses in the open ground, the same as recommended for *Scutellaria orientalis*, will root readily; it may also be raised from seeds, which will ripen occasionally.

1. Calyx. 2. Corolla spread open, to show the insertion of the stamens. 3. Stamen detached, showing the hairy filament, and anther. 4. Style and Stigmas. 5. The 4 naked Seeds.

E Dalton Smith del

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A Bailey sculp

# AMMOBIUM alatum.

## *Winged-stalked Ammobium.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.
Sect. II. *CARDUACEÆ.* Div. 5. *Vernoniaceæ.*

*AMMOBIUM. Receptaculum* paleis distinctis. *Pappus;* margo dentatus. *Antheræ* basi bisetæ. *Involucrum* imbricatum, coloratum radians.

Herba *erecta, tomentosa.* Folia *integerrima,* radicalia *lanceolata, basi attenuata;* caulina *minora, decurrentia.* Caulis *alatus, ramis unifloris.* Involucra *hemisphærica laminis albis, intimis patulis radium abbreviatum efformantibus.* Corollulæ *uniformes, flavæ.* Stigmata *truncato-dilatata.* Semina *ancipitia.* Receptaculum *convexum.* Brown in Botan. magaz. 2459.

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Ammobium alatum. *Brown loc. cit.*

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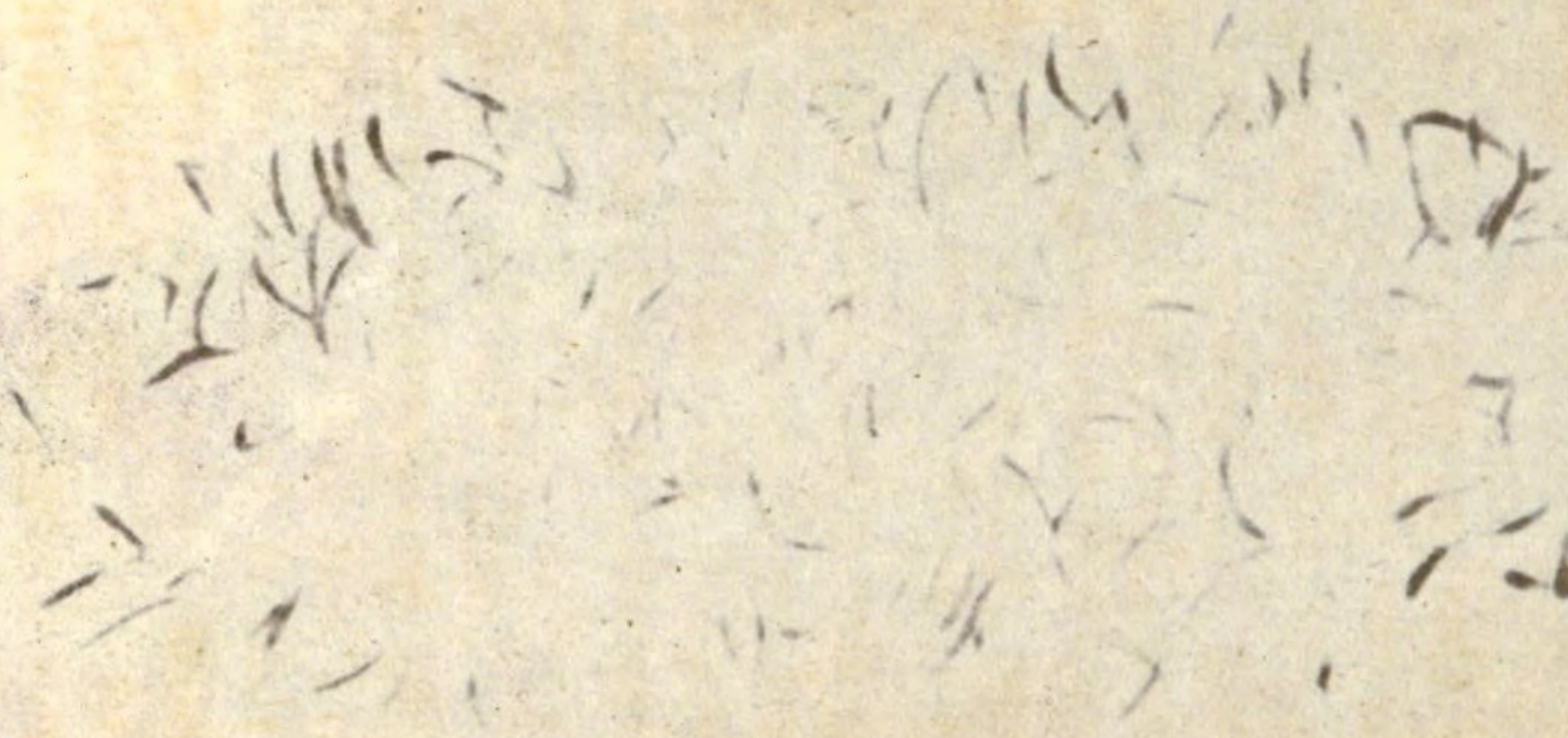
*Stems* from 18 inches to 2 feet in height, flexuose, much branched, 4-winged; *branches* corymbose, erect, tomentose, each terminated with a single capitulum; wings more or less curled, or undulate. *Leaves* at the root stellately spreading, oblongly lanceolate, acute, tapering to the base, entire, tomentose; those on the stems short, lanceolate, taper-pointed, undulate, broad at the base, clasping the stem, and decurrent, or running down it in a leafy border, or wing. *Peduncle* erect, also winged. *Involucre* many-leaved, imbricate; *scales* white, scariose, oblong, blunt, more or less wrinkled, radiate when the flower is expanded. *Receptacle* chaffy. *Chaff* membranaceous, broadly lanceolate, slightly toothed near the point, strongly keeled at the back, mucronate. *Rays* none. *Florets* tubular, 5-cleft, clothed here and there with small glandular pellucid hairs. *Stamens* 5; *filaments* distinct; *anthers* connected, but distinct at the points, with 2 small bristle like spurs at the base of each.

*Style* smooth, included in the tube. *Stigmas* 2, spreading, each terminated in a small truncated head. *Seeds* flat, sharp-edged, terminated by 2 very small teeth.

Our drawing of this curious and pretty perennial plant, was taken at the extensive and richly stocked Garden belonging to the Horticultural Society at Chiswick, in August last, where it was raised from seed received from New South Wales, sent by Mr. Charles Frazer, Corresponding Member of the Horticultural Society; and we are informed by Joseph Sabine, Esq. that it is hardy, and grows well in a rich border, blossoming the whole Summer, and Autumn. "It was discovered by Robert Brown, Esq. in 1804, growing plentifully near the shores of Port Hunter, in New South Wales, and named by him Ammobium, from its growing in sand." We would recommend its being planted in a south border; and, should the Winter be severe, to be occasionally covered with a little straw, or fern; but always leaving it uncovered in mild weather, that it might not rot. We believe most of the herbaceous plants from New South Wales, Van Diemen's Land, and New Zealand, would succeed well by this management; several that we have tried ourselves have succeeded very well.

We have often been surprized that the seeds of so few annual plants have, as yet, been introduced from New Holland, and also from the Cape of Good Hope, where so many pretty and interesting ones are growing wild in all directions; those would be most desirable, as they would all prove quite hardy, requiring nothing but to be sown in the open ground.

1. The Chaffy Receptacle cut through the middle. 2. Scale of the Involucre. 3. Scale of the Chaff. 4. Floret of the Disk. 5. The same split open, to show the insertion of the Stamens. 6. The same divested of the Stamens. 7. Stamens, showing the united Anthers and distinct Filaments. 8. Seed, terminated by a Style, and 2 capitate Stigmas, all magnified, except the Receptacle.



E Dalton Smith del

Pub by R Sweet Chelsea March 1 1824

A Bailey sculp

# LIATRIS spicata.

## *Long-spiked Liatris.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.
Sect. II. *CARDUACEÆ.* Div. 5. *Vernoniaceæ.*
*LIATRIS. Supra fol.* 44.

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L. *spicata*, caule simplici elato, foliis linearibus glabris basi ciliatis nervosis et punctatis, spica longissima; floribus sessilibus, squamis lineari-oblongis obtusis appressis. *Pursh Fl. Amer. sept. v.* 2. *p.* 507. sub. L. macrostachya.
Liatris spicata. *Willden. sp. pl.* 3. *p.* 1636. *Botan. magaz.* 1411. *Pers. syn.* 2. *p.* 403.
Liatris macrostachya. *Mich. amer.* 2. *p.* 91.
Serratula spicata. *Andrews's reposit.* 401.

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*Root* tuberous, bulbiform, fleshy; from the base and sides of which proceed numerous fibres. *Stems* several, springing from the same root, from 1 to 4 feet high, erect, more than half composed of pith, very leafy, channelled, owing to the wings that run down the stem from one leaf to the next, smooth, green below, and purple upwards. *Leaves* sessile, at the root lanceolate, stem ones linear, smooth, with a fringed base, prominently veined and dotted with numerous small transparent dots, bluntish. *Flowers* purple, crowded in a long close spike, sessile. *Involucre* many-leaved, imbricate; *scales* linearly oblong, obtuse, close pressed, with a thin membranaceous margin. *Receptacle* naked, slightly convex, punctured. *Florets* from 10 to 20, tubular, 5-cleft, tube about the length of the pappus; laciniæ oblong, bluntish, about half the length of the tube. *Anthers* 5, connected into a tube, about the length of the floret. *Style* about as long as the anthers, where it divides into 2 long blunt *stigmas* of a lilac

colour, some of which are as long again as the floret. *Seeds* channelled, very hairy. *Pappus* composed of numerous feathered hairs.

This very handsome Autumn-flowering species will, in a rich light soil, sometimes attain the height of 3 or 4 feet; in poorer soil it scarcely exceeds a foot, or 18 inches. It is one of the most desirable plants with which we are acquainted, for the borders of the flower garden, as it is quite hardy, and is in bloom from August to October; the only danger of its not succeeding is, if it be planted in a damp situation, as its fleshy roots are very liable to perish with too much moisture; after flowering, the roots sometimes raise themselves considerably above the earth; in that case, they should be covered with a little dry mould. The best time for transplanting them, is late in Autumn, when they are dormant, or very early in Spring; and if in a dry situation, the roots, if very large, may be parted; they may also be raised from seeds, which should be sown in pots as soon as ripe, and soon after they are come up, may be transplanted in the open ground, where they will soon become flowering plants.

Drawn at the Nursery of Mr. Colvill, King's Road, Chelsea, in September.

1. Capitulum split through the middle, to show the naked dotted receptacle. 2. Floret spread open, to show the nerves. 3. Stamens spread open, showing the distinct filaments, and united anthers. 4. Style terminated by its 2 blunt spreading Stigmas. 5. Seed, showing its feathered pappus.

1 2 4 5 6

E Dalton Smith del

Pub by R Sweet Chelsea March 1 1824

A Bailey sculp.

# IBERIS odorata.

## *Sweet-scented Candy-tuft.*

*Natural Order.* CRUCIFERÆ. *DC. Reg. veg. syst. nat. v.* 2. *p.* 139.

*Subordo* I. *PLEURORHIZEÆ. DC. p.* 146.

*Tribus* III. *THLASPIDEÆ* seu Pleurorhizeæ Angustiseptæ. Silicula bilocularis, bivalvis, septo angustissimo lineari, valvis carinatis aut navicularibus. Semina ovalia, compressa, sæpè marginata. Cotyledones planæ, accumbentes. *DC. p.* 372.

*IBERIS. Calyx* basi æqualis. *Petala* 4, inæqualia, 2 exteriora majora. *Stamina* libera, edentula. *Silicula* valvis carinatis navicularibus depressissima, basi ovata, apice valvis nempè in lobulos productis emarginata, stylo persistente filiformi apiculata, septo interdùm bipartibili angustissimo, loculis latere interno axi adnatis, 1-spermis. *Semina* ovata, pendula. *Radicula* ad latus embryonis exterius. *Cotyledones* interius adscendentes, accumbentes. Herbæ *aut* Suffrutices. Caules *teretes, sæpiùs glabri, interdum subcarnosi.* Folia *alterna, linearia aut obovata, integra, dentata aut pinnatifida, interdùm crassiuscula.* Racemi *nunc elongati, nunc per anthesin corymbosi posteà elongati, nunc imò post anthesin corymboso-umbellati.* Pedicelli *ebracteati.* Flores *albi aut purpurascentes (nunquam lutei), exteriores corymbi magis irregulares, interiores subregulares.* DC. syst. p. 393.

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I. *odorata,* herbacea glabra, foliis linearibus dentatis basi ciliatis apice dilatatis, siliculis subrotundis; emarginaturæ lobis acutis patulis stylo brevioribus. *DC. syst. p.* 400.

Iberis odorata. *Lin. sp.* 906. *Mill. dict. n.* 4. *Willd. sp. pl.* 3. *p.* 437. *Pers. syn.* 2. *p.* 187. *Hort. sub. lond. p.* 144. *DC. prodr.* 1. *p.* 180.

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*Root* annual, slender. *Stem* erect, bluntly angular, more or less branched, densely clothed with short white hairs; *branches* erect, furrowed. *Leaves* linear, succulent, slender, and fringed at the base, widened,

and blunt at the point; lower ones pinnatifid, segments blunt, spreading; upper ones longer and narrower, thinly toothed near the point with short blunt teeth. *Peduncle* obsoletely 4-cornered, and furrowed with numerous channels, very hairy. *Flowers* corymbose, white, sweet-scented, very little lengthened when in fruit. *Pedicles* slender, a little flattened, thickest at the base, and gradually tapering upwards; lower ones longest. *Calyx* of 4 short sepals, which are obovate, concave, their points bent inwards, with brownish red membranaceous margins. *Petals* 4, unequal, particularly on the outer flowers; on the inner ones becoming nearly equal. *Style* a little longer than the stamens. *Silicle* nearly round, covered with small pellucid glands, and terminated in 2 spreading sharp-pointed lobes.

Our drawing of this pretty and fragrant annual plant, was taken this Summer at the Nursery of Mr. Colvill, where it was cultivated in the open ground, and continued to flower all the Summer; it is allied to I. *pinnata*, but differs in its stem leaves being only toothed, and its acute lobed pods; it is also related to I. *amara*, in its flowers, but differs considerably in its leaves and pods. A native of Crete; and only requires to be sown in the open borders, and to be kept free from weeds. Our specimens grew to the height of a foot, and ripened plenty of seeds, which should be sown in March, or April; others may be sown later in Summer, they will then continue to flower late in the season.

1. Calyx. 2. One of the large petals, and 1 of the small ones. 3. Stamens. 4. Stamen detached. 5. Germen, showing its acute lobes, and terminated with the style, and capitate stigma. 6. Silicle, or pod.

E. Dalton Smith del. Pub. by R. Sweet Chelsea March 1 1824 A. Badeyse

# CENTAUREA suaveolens.

## *Yellow sweet Sultan, or Centaury.*

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*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.
Sect. II. *CARDUACEÆ.*
*CENTAUREA. Receptaculum* setosum. *Pappus* simplex. *Corollæ* radii infundibuliformes, longiores, irregulares.
Sect. I. (Centaurea *Juss.*) *Flores* centrales hermaphroditi, marginales neutri. *Involucri* squamæ inarmes simplices. Folia *simplicia aut pinnata.*

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C. *suaveolens*, involucris inermibus glabris, squamis subrotundo-ovatis obtusiusculis apice sphacelatis, foliis lyrato-pinnatifidis. *Willden. sp. pl.* 3. *p.* 2279.
Centaurea suaveolens. *Pers. syn.* 2. *p.* 481. *Hort. Kew. ed.* 2. *v.* 5. *p.* 144.

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*Annual. Stem* erect, much branched, from a foot to 18 inches in height; *branches* angular, pubescent. *Leaves* lyrately pinnatifid, when young pubescent, the pubescence gradually wearing off; lower ones ovate or elliptic, more or less sharply toothed; upper ones oblong, or lanceolate, more pointed; segments bluntish. *Peduncles* terminal, 1-flowered, many angled, pubescent. *Flowers* large, golden yellow. *Involucre* many-leaved, imbricate; *scales* roundly-ovate, blunt, and terminated with a brown point, the upper ones sphacelate, smooth, or slightly pubescent. *Receptacle* flat, setose. *Marginal florets* very large, barren, tubular, terminated with from 18 to 24 sharp pointed teeth. *Florets of the disk* fertile, tubular, and terminated in 5 long pointed teeth, furnished both with stamens and pistil. *Stamens* 5; *filaments* distinct; *anthers* con-

nected; *pollen* bright yellow. *Style* smooth. *Stigma* terminated in a long point. *Seeds* densely hairy, crowned with a feathered pappus.

This very handsome and delightfully fragrant annual, is particularly well adapted for ornamenting the flower borders in Summer; it is rather more tender than the more common Sweet Sultan, or C. *moschata*, and thrives best in a warm dryish situation; if sown in the open ground, it should be in a border of light rich earth, and as much exposed to the sun as possible; if the Summer proves favourable, the plants will succeed very well, growing to the height of a foot, or 18 inches, and continuing to bloom nearly all the Summer. They may also be sown in pots, in a hot-house, or green-house, or on a hot-bed that is often appropriated to the raising of rather tender annuals; from thence they may be transplanted into the open ground; but this must be done before they get too large, or they will not be likely to do so well; when transplanted, they must be attended daily with water, should the weather prove dry and warm.

This plant, like many others, seldom produces seeds in any abundance; this is owing to the pollen not coming in contact with the stigmas; but is easily remedied by touching the stigmas of one flower with the pollen of another, by putting the two flowers together, and tapping the heads with the finger; this must be done when the sun is on them, as the pollen is then perfect.

Our drawing was taken at the Nursery of Mr. Colvill, last Summer.

1. Receptacle cut in two, to show the chaff. 2. Floret of the disk spread open. 3. Stamens spread open, showing the united anthers, and distinct filaments. 4. Seed crowned with a feathered pappus, and withered floret.

E. Dalton, Smith, Del. Published by R. Sweet, Chelsea March. 1, 1824.

# SCUTELLARIA Columnæ.

## *Columna's Skull-cap.*

*Natural Order.* LABIATÆ. *Brown prodr.* 499.
*SCUTELLARIA. Supra fol.* 45.

S. *Columnæ,* foliis oblongis cordatis serratis pubescentibus, spicis elongatis secundis, bracteis petiolatis ovatis calyce brevioribus. *Willden. sp. pl.* 3. *p.* 175.
Scutellaria Columnæ. *Pers. syn.* 2. *p.* 136. *Hort. sub. lond. p.* 135. *All. pedem. n.* 145. *t.* 84. *f.* 2. *Column. ecphr.* 1. *p.* 187. *t.* 189.

*Perennial. Stems* ascending, about 18 inches high, 4-sided, branching in all directions; *branches* bluntly quadrangular, clothed with a short dense pubescence. *Leaves* opposite, oblongly cordate, bluntly serrate, terminating in a bluntish point, rugose, pubescent on both sides. *Petioles* shorter than the leaves, channelled on the upper side, and convex on the lower, pubescent. *Flower spikes* long, the flowers in pairs, purple, and leaning to one side. *Bractes* on a very short footstalk, ovate, concave, pointed and ciliate, about the length of the calyx. *Pedicles* shorter than the bractes, villous. *Calyx* 2-lipped, entire, villous, enclosing the seeds, the upper lip forming a kind of cap. *Corolla* tubular, ringent, villous, helmet 3-lobed, upper lobe round, emarginate, side ones small, acute; lower lip emarginate, its sides a little reflected. *Stamens* 4, inserted in the tube, 2 longer than the others; *filaments* declining, very hairy; *anthers* incumbent, fringed. *Style* smooth, shorter than the stamens.

*Stigma* a small simple point. *Seeds* 4, naked, smooth and shining, enclosed in the calyx.

Our drawing of this beautiful species of *Scutellaria* was taken at the Garden belonging to the Apothecaries' Company, at Chelsea, last Summer, where it grew to the height of about 18 inches, and continued to flower all the latter part of Summer. It is a very handsome plant, and its long spikes of purple flowers all leaning to one side, make an elegant appearance; like most of the other species of the genus, the stem is suffrutescent at the base, and from thence branches in various directions.

It succeeds well in the open ground, and prefers a rich light soil; it may be increased by dividing it at the root, or young cuttings planted under hand-glasses, in the open ground, will soon strike root, managing them, as was before directed in a former Number, under S. *orientalis*; it may also be increased by seeds, which sometimes ripen plentifully.

1. Calyx. 2. The same highly magnified, with the upper part turned back, to show the 4 naked seeds. 3. Corolla spread open, to show the insertion of the stamens. 4. Stamen detached. 5. The 4 naked Seeds. 6. Style.

# YUCCA glaucescens.

## *Glaucescent Adams Needle.*

*Natural Order.* TULIPACEÆ. *Kunth Synops.* 1. *p.* 292.

*YUCCA. Perianthium* campanulatum, laciniis rectis non nectariferis. *Stamina* filamentis supernè crassioribus; antheris minimis. *Stylus* 0; stigma sessile. *Capsula* oblonga, obtuse 3-gona; semina plana. Caulis *subnullus aut caudice assurgente fruticosus; folia confertia terminalia, ensiformia apice spinoso; flores spicati aut paniculati, terminales, bispathacei.* Juss. gen. 49.

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Y. *glaucescens,* foliis lineari-lanceolatis integerrimis concavis glaucescentibus strictis; margine rarissime filamentosis, petalis interioribus sesquilatioribus, caule erecto ramoso.
Yucca glaucescens. *Haworth supp. plant. succ. p.* 35.

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A stemless species. *Leaves* several, spreading all round, middle ones upright, from 12 to 18 inches long, and 1 broad; linearly-lanceolate, straight, rigid, tapering at both ends, concave, particularly towards the point, which terminates in a sharp horny spine, of a dull glaucous colour; margin entire, with here and there a slender white filiferous thread, from 3 lines to 2 inches in length, a little twisted. *Flower-stem* from 3 to 4 feet in height, much branched towards the point; *branches* short, thickly clothed with flowers, angular, channelled, densely covered with a short white down. *Flowers* generally in pairs, the terminal ones solitary, of a greenish white, tinged with yellow. *Bractes* sphacelate, membranaceous, sheathing at the base, ovately lanceolate, concave, acute, of a grey

brown, streaked with numerous darker lines. *Peduncles* short, cylindrical, a little bent when in flower, downy. *Perianthium* divided into 6 segments, nearly to the base, campanulately spreading; segments thick and succulent, the 3 inner ones half as broad again as the outer ones. *Stamens* 6, inserted in the base of the perianthium; *filaments* gradually thickening upwards, a little longer than the germen; *anthers* small in proportion, sagittate, attached at the base, blunt-pointed. *Germen* superior, bluntly 3-sided. *Style* none. *Stigmas* 3, sessile, channelled inwards, with retuse points.

This plant is a native of North America, and was introduced by the late Mr. John Lyons, from whom Mr. Colvill purchased the plants from which our drawing was taken. Mr. T. Nuttall, in his *Genera of North American Plants*, mentions a species of this genus, discovered by Mr. Lyons, nearly allied to Y. *filamentosa*, but much narrower leaved, and known by the name of Y. *angustifolia* by the gardeners around London, this is probably the species meant. It is a fine stately perennial plant when in flower; in rich soil attaining the height of 3 or 4 feet; several plants flowered at Mr. Colvill's Nursery, last Summer, and continued in bloom from the beginning of August till the middle of October. It is quite hardy, will succeed well in any common garden soil, and may be increased abundantly by the suckers from the roots.

1. Stamen, showing its large thickened filament, and small anther. 2. Germen, terminated by its 3 sessile retuse stigmas.

E Dalton Smith del

Pub by R Sweet Chelsea April 1 1824

A Bailey sculp

# MALCOMIA littorea.

## *Tomentose Malcomia.*

*Natural Order.* CRUCIFERÆ. *DC. reg. veg. syst. nat. v.* 2. *p.* 139.
*MALCOMIA. Supra fol.* 40.

M. *littorea*, caule multiplici erecto, foliis lanceolato-linearibus subintegris, tomento brevi canis, pedicellis calycis longitudine, siliquis incanis. *DC. loc. cit. p.* 443.
Malcomia littorea. *Hort. Kew. ed.* 2. *v.* 4. *p.* 121. *Hort. sub. lond.* 147.
Malcolmia littorea. *Link enum.* 2. *p.* 167.
Cheiranthus littoreus. *Willden. sp. pl.* 3. *p.* 521.
Hesperis littorea. *Lam. dict.* 3. *p.* 322.

*Biennial. Stems* several from the same root, simple, or sometimes branched, from 6 inches to a foot in height, upright, or slightly spreading, cylindrical, thickly clothed with a short white close-pressed tomentum, as are the leaves, peduncles, and calyx. *Leaves* lanceolately linear, blunt, attenuated to the base, entire, or distantly toothed. *Racemes* several-flowered, terminal, erect, without bractes. *Pedicles* slender, about the length of the calyx. *Calyx* of 4 sepals, connivent, 2-gibbous at the base; *sepals* linear, concave, bluntish, every other one largest. *Petals* 4, unguiculate, the unguis a little longer than the calyx; lamina obovate, or obcordate, emarginate, of a bright lilac, lighter at the base. *Stamens* 6, inserted in the receptacle, 4 long, and 2 short; *filaments* smooth, attached to the anthers a little above

their base; *anthers* oblique, 2-celled, opening by the sides. *Pod* cylindrical, tomentose, terminated by an acute stigma.

This pretty plant is a hardy biennial, or by sowing the seeds early in Spring it might be treated as an annual; the best method is to sow the seeds in Autumn, the plants will then get strong, and flower early in Summer, and ripen plenty of seeds; when sown in Spring, they will not flower till the Autumn; and if the Summer should prove cold or wet, they will scarcely ripen their seeds at all.

Our drawing was taken from some plants at the Nursery of Mr. Colvill, where they were raised from seeds sown in the month of March; these began flowering in September, and continued in full bloom till the end of November, but the weather being generally wet at that season, they ripened no seeds.

1. Calyx. 2. Petal, showing its long slender unguis. 3. Stamens, 4 long, and 2 short, with the siliqua growing up through the middle of them. 4. Stamen detached, magnified. 5. Siliqua, terminated with its acute stigma.

E. Dalton, Smith, Del. Published, by R. Sweet . - - - Chelsea. April 1, 1829.

# VERONICA neglecta.

## *Canescent Speedwell.*

*Natural Order.* SCROPHULARINÆ. *Brown prodr.* 433.
*Sect.* 1. Stamina duo antherifera. Capsula bilocularis.
*VERONICA. Supra fol.* 23.

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V. *neglecta,* spicis terminalibus cano-pubescentibus, foliis serratis cauleque canescenti-tomentosis; radicalibus petiolatis oblongis obtusis; caulinis oppositis alternisve lanceolatis utrinque attenuatis basi integerrimis.
Veronica neglecta. *Vahl. Willd. enum. v.* 1. *p.* 15. *Rœm. et Schult. syst.* 1. *p.* 92. *Sweet hort. sub. lond. p.* 4.
Veronica canescens. *Schrad. ver.* 19. *Link enum.* 1. *p.* 21.

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*Root* perennial. *Stems* prostrate at the base, then ascending, afterwards erect, thickly clothed with a white tomentum. *Leaves* canescent, serrate, but entire at the base; lower ones with long foot-stalks, oblong, bluntish; stem leaves opposite, lanceolate, pointed at both ends, upper ones alternate, those next the flowers nearly entire. *Spikes* several, terminal, the middle one much the longest, often a foot in length, hoary. *Bractes* subulate, lower ones a little longer than the flowers, upper ones about the length of the calyx, canescent, as are the pedicles and calyx. *Pedicles* very short. *Calyx* 4-parted, 2 lower segments deeply divided, subulately linear, nearly twice the length of the upper ones, which are ovate and blunt. *Corolla* subrotate; tube shorter than the calyx; limb 4-parted, unequal, spreading, of a bright blue colour; segments entire, some lanceolate, acute, others ovate, and blunt. *Stamens* 2. *Filaments* longer than the

petals. *Anthers* incumbent, 2-celled, bursting in front to discharge the pollen. *Germen* woolly. *Style* smooth and shining, purple, about the length of the stamens. *Stigma* a simple blunt point, darker than the style.

Our drawing of this perennial plant, was taken at the Nursery of Mr. Colvill, where it continues in bloom the greater part of the Summer, and is quite hardy, requiring only to be planted in the open flower borders. In a rich soil, it often attains to the height of 18 inches; in poorer soil, or in pots, it scarcely exceeds a foot; it is a very proper plant for the adorning of rock-work, and will also thrive in a shady situation. It is nearly related to V. *incana*, with which it has been often confounded, when in a weak state, but the leaves of that are generally entire; when growing strong, it is sometimes confounded with V. *australis*, but the leaves of that are thicker, and much deeper notched. It is readily increased by dividing it at the root; or it may be raised from seeds, which ripen in abundance.

1. Calyx, showing its unequal laciniæ. 2. Corolla spread open, to show the unequal segments. 3. The 2 stamens inserted in the base of the corolla. 4. Germen terminated by the Style and small Stigma.

C Dalton Smith del

Pub by R Sweet Chelsea April 1 1824.

A Barclay sculp

# GALINSOGEA trilobata.

## *Three-lobed Galinsogea.*

*Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.
Sect. V. *HELIANTHEÆ. Kunth Synops. tom.* 2. *p.* 463.

*GALINSOGEA. Involucrum* semiglobosum, oligophyllum, laxe imbricatum. *Receptaculum* planum, paleaceum. *Flosculi* disci tubulosi, hermaphroditi; radii bilabiati, feminei; labio exteriore maximo, subtrilobo aut integro; interiore abbreviato, bipartito. *Akenia* coronata squamulis ciliato-fimbriatis aut plumulis crebris persistentibus.

Herbæ *ramis foliisque oppositis, laciniatis; floribus terminalibus, longe pedunculatis; radio aurantiaco.* Kunth Synops. 2. p. 491.

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G. *trilobata,* foliis oblongo-lanceolatis dentatis triplinerviis; inferioribus hastato-trilobis. *Willden. sp. pl.* 3. *p.* 2228. *Hort. Kew. ed.* 2. *v.* 5. *p.* 122. *Bot. mag.* 1895.
Galinsoga trilobata. *Cavanill. ic.* 3. *p.* 42. *t.* 282. *Pers. syn.* 2. *p.* 472.

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*Annual. Stems* much branched, ascending, spreading round in every direction, from 1 to 2 feet in height; *branches* cylindrical, furrowed with numerous channels, and clothed with long spreading hairs. *Leaves* opposite, attenuated at the base, more or less toothed, triplinerved, slightly hairy; lower ones oblong, hastately 3-lobed, and terminating in a bluntish point; upper ones narrower, lanceolate, sharper toothed, and more pointed. *Peduncles* terminal, generally in pairs, the branch still lengthening out into other pairs, very hairy, hairs terminated with purple glands. *Involucre* imbricate, smooth and glossy; *scales* obovate, obtuse,

points curved inwards, membranaceous. *Receptacle* paleaceous. *Chaff* lanceolate, keeled, taper-pointed. *Rays* from 8 to 10, fertile, obcordate, 3-lobed, of a bright yellow, with an orange-coloured mark at the base; lobes blunt and rounded. *Florets of the disk* tubular, hairy at the base, furnished both with stamens and pistils, opening into 5 blunt reflexed teeth. *Stamens* 5; *filaments* distinct, smooth; *anthers* connected. *Style* smooth. *Stigma* bifid. *Seeds* black, clothed with close pressed white hairs, obconical, or with the largest part uppermost, terminated with a pappus of numerous small serrated chaff.

A very pretty hardy annual, native of South America, and only requires to be sown in the open ground, and to be kept free from weeds; the best time for sowing the seeds, is the latter end of March, or beginning of April; if sown earlier, they are liable to be injured by the Spring frost. As the plants spread considerably, they should not be allowed to remain too close together; if they are from 9 inches to a foot apart, they will make a better appearance than if they were nearer to each other, flowering from August to October, and ripening abundance of seeds.

Our drawing was taken at the Nursery of Mr. Colvill, in September last.

1. Involucre cut through the middle, to show the chaffy receptacle. 2. Scale of the involucre. 3. Scale of the chaff, showing its keel and attenuated point. 4. Floret spread open, showing its nerves. 5. Stamens, showing the united anthers and distinct filaments. 6. Seed, terminated with its style and bifid stigma. 7. Ripe Seed, terminated with a pappus of small serrated chaff.

E Dalton Smith del

Pub by R Sweet Chelsea May 1. 1824

A Bailey sculpt

# SYMPLOCARPUS fœtidus.

## *Fœtid Symplocarpus, or Scunkweed.*

*Natural Order.* AROIDEÆ. *Brown Prodr.* 333.
*Sect.* II. *Flores* hermaphroditi; *Perianthio* instructi.
ORONTIACEÆ.

*SYMPLOCARPUS. Spatha* ventricoso-ovata, cucullata, acuminata, basi convoluta. *Spadix* subglobosus; floribus undique tectus. *Perianthium* 4-partitum. *Stamina* 4. *Baccæ* coadunatæ, monospermæ. *Semina* magna, exalbuminosa.

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S. fœtidus. *Salisbury in Hort. trans. Nuttall gen. amer. v.* 1. *p.* 106.
Dracontium fœtidum. *Willden. sp. pl.* 2. *p.* 288.
Pothos fœtida. *Botan. magaz.* 836. *Hort. Kew. ed.* 2. *v.* 1. *p.* 270.

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*Root* verticillately fibrous, truncate. *Leaves* large, smooth, pale green, often tinged with purple or brown, ovate-cordate, strongly veined, entire, preceded by conspicuous sheathing stipules, and protected by large glaucous, spathulate-linguiform, veinless bractes. *Scapes* radical, appearing before the leaves. *Spatha* discoloured, ovoid, roundish, cucullate, obliquely acuminate, point coarctate, plaited, involutely auriculate at the base, thick and spongy, livid purple, blotched and spotted with pale green, or greenish yellow blotched with purple. *Spadix* pedunculate, simple, almost sphærical, covered with hermaphrodite flowers. *Bractes* none. *Flowers* tessellately imbricate, adnate. *Perianthium* 4-parted, persistent, divided to the base; segments cucullate, truncate, compressed at the apex, emarginate, at length becoming very thick and spongy. *Stamens* 4, opposite the divisions of the perianthium; filaments subulate, flat; anthers exserted, short, oblong-oval, 2-celled. *Style* thick, pyramidal, quadrangular, acuminate; stigma simple, minute, pubescent, shorter than the stamens. *Germen* immersed in the spongy receptacle, 1-seeded. *Seed* naked, large, round, inclosed in the common receptacle. *Corculum*

small, involute, erect, umbilicately attached to a large solid, carneous perisperm. *Chiefly copied from Nuttall.*

" *Obs.* The seed of the *Symplocarpus* does not appear to possess any thing like a proper cotyledon, the embryo formed in the exact posture of the growing plant, (with the radical downwards,) differs not from it in any particular, but that of size. In place of a cotyledon there is a sheathing stipule similar to that which is ever after produced; in fact, it is viviparous. The embryon is seated in a small umbilical or hemispherical depression, in the upper end of what may be called a *vitellus* rather than a perisperm, judging from its functions; this callus, or seminal tubercle, is roundish, and turbinate, nearly as large as a filbert nut, very solid, and carneous, possessing in a high degree the alliaceous fœtor of the grown plant; the mutual point of attachment subsisting betwixt this body and the embryon, is at first a minute and nearly central funiculus, which enlarges and becomes more distinct during the progress of germination; but what appears to be most singular in it, is the length of time which it continues attached to the growing plant, apparently inert at the base of the caudex for 12, or even 18 months." *Nuttall loc. cit.*

Several plants of this curious species have been lately received from North America, by Mr. Colvill, and the greater part were in full flower when they arrived; from one of those our drawing was taken in March last. The mould in which they grew was a very black soft peat, the kind of soil in which they should be planted in this country, and in a moist situation, as Mr. Nuttall says, they are subaquatics; being so curious a plant, it is well worth cultivation in any collection, as the flowers are very curious, and its fine large light green leaves make a fine appearance after flowering; it is quite hardy, and may be increased by dividing at the root.

1. Spadix in full flower. 2. Perianthium spread open. 3. The Stamens connected at the base, inclosing the Style. 4. The same laid open. 5. Style, terminated by its small bearded Stigma.

E Dalton Smith del

Pub by R Sweet Chelsea May 1. 1824

S Bailey sculpt

# SILENE vespertina.

## *Evening Catchfly.*

*Natural Order.* CARYOPHYLLEÆ. *DC. prodr. syst. nat.* 1. *p.* 351.

Tribus I. *SILENEÆ. Sepala* coalita in tubum cylindraceum apice 4-5-dentatum.

*SILENE. Calyx* tubulosus 5-dentatus nudus. *Petala* 5 unguiculata, fauce sæpissimæ coronata, limbo bifido. *Stamina* 10. *Styli* 3. *Capsulæ* basi 3-loculares apice in 6 dentes dehiscentes. *DC. prodr.* 1. *p.* 367.

Sect. V. *STACHYMORPHA. Caulescentes. Flores* spicati axillares, non oppositi. *Calyx* 10-striatus.

§. 2. *Calycibus clavatis.*

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S. *vespertina,* pubescens, caulibus ramosis, foliis spathulatis obtusis, spicis geminis secundis, calycibus vesiculato-clavatis, petalis bipartitis, lobis ovatis. *DC. loc. cit.* 374.

Silene vespertina. *Retz. obs.* 3. *p.* 31. *Willden. sp. pl.* 2. *p.* 699. *Botan. magaz.* 677.

Silene bipartita. *Desf. atl.* 1. *p.* 352. *t.* 100.

Silene distachya. *Brot. fl. lusit.* 2. *p.* 189.

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*Annual. Stems* erect, from a foot to 18 inches in height, much branched from the base, pubescent. *Leaves* on the lower part of the stem obovate, upper ones spatulate, obtuse; all fringed at the base. *Spikes* in pairs, terminal, secund, or the flowers leaning to one side; intermediate flower pedunculate. *Calyx* clavate, vesiculosely pubescent, erect. *Petals* 2-parted, coronate, rose-coloured; lobes ovate; crown connate. *Stamens* 10, every other one shortest, and joined to the base of the petals; the other 5 longer, and inserted in the receptacle. *Styles* 3, spreading.

This pretty annual is quite hardy, and only requires to be sown in the open flower borders, and to be kept free from weeds. The seeds of our plants were received from Germany, under the name of S. *bifida*; it is without doubt the S. *vespertina* of the Botanical Magazine, and also the S. *bipartita* of Desfontaines, if we may judge from the figures, though, in many Botanical works, they are enumerated as different species. But Decandolle, in his Prodromus, considers them both to belong to the same, and we have thought it safest to follow his opinion. The best time for sowing the seeds is the latter end of March, or beginning of April; and should the plants come up too close together, they should be thinned out, leaving them from 4 to 6 inches apart, they will then grow stronger, and flower in greater perfection. The flowers appear to the greatest advantage of an evening, or early in the morning; for when the sun shines warm on them, the petals curl up, and do not open again till the evening.

Our drawing was taken at the Nursery of Mr. Colvill, last Summer.

1. Calyx. 2. Petal detached, to show the insertion of the Stamen. 3. Corolla spread open, showing the 5 Petals with their crowned Faux, and the insertion of the 5 shortest Stamens. 4. The other 5 longer Stamens inserted in the Receptacle. 5. Germen terminated by the 3 spreading Styles.

E Dalton Smith del  Pub by R Sweet Chelsea May 1 1824  A Bailey sculp

# SAXIFRAGA ligulata.

## *Fringed-leaved Nepaul Saxifrage.*

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*Natural Order.* SAXIFRAGEÆ. *Juss. gen.* 308.

*SAXIFRAGA. Calyx* 5-fidus. *Petala* 5, integra. *Stamina* 10. *Styli* 2, persistentes. *Capsula* 2-locularis, 2-valvis è stylis persistentibus birostris; intra rostra foramine orbiculari aperiens, polysperma. *Semina* minuta, lævia.

Sect. I. *BERGENIA. Calyx* campanulatus, 5-fidus, extus rugosus; *segmentis* conniventibus. *Petala* unguiculata, calyce inserta. *Stamina* fauce calycis inserta; *filamenta* subulata; *antheræ* subrotundæ. *Styli* intus cavi seminibus pleni! basi coaliti, demùm turgidi et in capsulam profundè bipartitam transientes. *Stigmata* semiglobosa glabra. *Semina* cylindracea. Herbæ *perennes*. Radix *crassa, lignosa*. Folia *ampla carnosa*. Petioli *stipulis integris membranaceis secus bases utrinque adnatis instructi!* Scapi *crassi, denudati*. Flores *thyrsoideo-paniculati*. D. DON in Linn. trans. v. 13. p. 343.

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S. *ligulata*, foliis orbiculato-cordatis obovatisve denticulatis ciliatis punctatis glabris, stipulis ciliatis, scapo dichotomo, petalis late orbiculatis.

Saxifraga ligulata. *Wallich in Act. Soc. Asiat. XIII. p.* 398. *cum fig. Don in Linn. trans.* 13. *p.* 348. *Hooker Exot. Flor. t.* 49.

Megasea? ciliata. *Haworth sax. enum. p.* 7.

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*Root* horizontal, ligneous. *Leaves* large, leathery, denticulate, ciliate, dotted all over with small punctures, strongly veined underneath, smooth, of a glossy green on the upper side, and of a dull pale green on the lower; lower ones roundly obovate, cordate at the base, from 9 to 10 inches long, and 7 broad; upper ones nearly round, cordate, 4 inches long, and about the same in breadth. *Petiole* short and thick, nearly

round, furnished at the base with a large decurrent, membranaceous, fringed *Stipule*, which clasps the stem. *Scapes* 2 to 4, erect, slenderish, smooth, leafless, forked, sometimes divided again; *racemes* from 4 to 6-flowered, at first nodding, afterwards becoming upright. *Bracte* 1, below the fork, membranaceous, dilated at the base, sheathing the scape, acute. *Pedicles* short, roughish, striate. *Calyx* campanulate; laciniæ 5, short, roundish, obtuse, dotted. *Petals* 5, white, inserted in the calyx, unguiculate; lamina broadly orbiculate. *Stamens* 10, inserted in the calyx, every other one longest; *filaments* smooth, subulate, flesh-coloured; *anthers* roundish; *pollen* cream-coloured. *Capsule* superior, terminating gradually into the *Styles*. *Stigmas* 2, large, nearly globular, smooth, and glossy.

This beautiful species of Saxifrage, is a native of Nepaul, and was raised at the Nursery of Mr. Colvill, in the Spring of 1822, from seeds sent him, by Mr. George Potter, from the Botanic Garden, at Calcutta; 2 of the plants flowered this Spring, from one of which our drawing was taken. It belongs to the same section or subgenus, as the common S. *crassifolia*, and S. *cordifolia*, which, with Mr. Don, we agree in considering as distinct species: indeed, we never had any other opinion concerning them.

The present plant will be a valuable addition to our collections, as it flowers so early in Spring; and we expect it will prove as hardy as its near relatives; but, at present, we would advise it to be planted in a warm border, and to be covered with a mat, or a little straw, or fern, in severe weather in Winter. It succeeds well in a rich garden soil, and may be increased, but slowly, from the suckers at the roots.

1. Calyx spread open, showing the insertion of the Stamens. 2. Petal. 3. Germens terminated with 2 capitate Stigmas.

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# CUPHEA viscosissima.

## *Viscous Cuphea.*

*Natural Order.* SALICARIÆ. *Juss. gen.* 330.

*CUPHEA. Calyx* tubuloso-ventricosus, 6-12-dentatus, inæqualis. *Petala* 6, (plerumque) inæqualia, calyci inserta. *Stamina* 10-12-insertione inæqualia, nempè hinc 8 coordinata et conformia, indè 4 minora gemina ordine disposita quorum 2 superiora villosa; *antheræ* subrotundæ. *Capsula* cum calyce longitudinaliter dehiscens, 1-locularis; conceptaculo triquetro. *Semina* lentiformia.

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C. *viscosissima*, floribus axillaribus solitariis, foliis ovato-lanceolatis supra scabris, caule erecto hispido, stylo piloso. *Hort. Kew. ed.* 2. *vol.* 3. *p.* 150.

Cuphea viscosissima. *Willden. sp. pl.* 2. *p.* 870. *enum.* 498. *Jacq. hort. vindob.* 2. *p.* 83. *t.* 177. *Pers. syn.* 2. *p.* 8. *Barton Flor. north amer. v.* 1. *t.* 18.

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*Annual*, from a foot to 18 inches in height, erect, branched, of a purplish colour; *branches* rather flexuose, thickly clothed with short stiff purplish hairs, covered with a viscous substance, as are the petioles, peduncles, and calyx. *Leaves* ovate, or ovately lanceolate, oblique at the base, entire, bluntish, hairy on both sides. *Petioles* slender, shorter than the leaves, flattened on the upper side, and rounded on the lower. *Flowers* small, axillary, solitary. *Peduncles* very short, scarcely any. *Calyx* tubular, ventricose, 12-angled, and terminated with 6 very short blunt teeth; angles of a darker colour, hispid, the channels between them smooth and naked. *Petals* 6, unequal, the 2 upper ones largest, unguiculate, inserted in the calyx, of a light purple, or lilac. *Stamens* 12, unequally

inserted in the tube of the calyx; *filaments* hairy, the 2 upper ones villous; *anthers* incumbent. *Style* 1, hairy, slender towards the point, and terminated with a small capitate stigma. *Capsule* bursting longitudinally soon after the flower drops, and showing its naked seeds, which continue to encrease in size, and remain firmly attached till ripe. *Seeds* several, lentiform, facing the side that the capsule is burst, in a kind of secund spike.

Our drawing was taken at the Nursery of Mr. Colvill, from plants raised from seeds last Spring; they began flowering when they were scarcely 4 inches high, and continued to bloom the whole of the Summer, and ripened abundance of seeds; the first flowers were very small, agreeing exactly in size with those in the figure of Barton's Flora, of North America; but as the plants increased in strength, the flowers became larger, at length, making a handsome appearance. The bursting of the capsules is a very curious circumstance, and if the plants are not well watched, the seeds will drop out and be lost.

The present plant has been generally considered as a greenhouse biennial, but ours were certainly hardy annuals, flowering very soon after being out of the ground, and dying as soon as the seeds were ripened. The best time for sowing the seeds, is the beginning of April, if the weather prove mild; they should be sown in a rich soil, in a warm border.

1. Calyx. 2. Calyx spread open, to show the insertion of the Petals and Stamens. 3. One of the upper Stamens detached, to show the villous filament. 4. Capsules, showing the hairy Style and capitate Stigma: one of them burst, showing the situation of the seeds.

E. Dodson Smith del

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J. Pouley sculp

# HESPERIS fragrans.

## *Evening-Scented Rocket.*

*Natural Order.* CRUCIFERÆ. *DC. reg. veg. syst. nat. v. 2. p.* 139.

*Subordo* II. *NOTORHIZEÆ. Cotyledones planæ*, incumbentes. *Radicula* dorsalis. *Semina* ovata, immarginata. *DC. p.* 150.

*Tribus* VII. *SISYMBREÆ* seu *NOTORHIZEÆ SILIQUOSÆ.*

*HESPERIS. Calyx* clausus, bisaccatus. *Petala* unguiculata, limbo patente obtuso aut emarginato. *Stamina* libera, tetradynama. *Glandulæ* virides, subannulatæ, ad basin staminum lateralium. *Siliqua* stricta subtetragona aut compressa, stigmatibus 2 erectis sessilibus conniventibus terminata. *Semina* oblonga, subtriquetra, pendula, 1 serialia. *Cotyledones* planæ incumbentes. Herbæ *annuæ, biennes perennesve;* radice *fibrosa;* caule *tereti erecto aut diffuso.* Folia *ovato-lanceolata aut oblonga, dentata aut lyrato-runcinata.* Plantæ *pleræque pilis aliis lymphaticis simplicibus ramosisve, aliis præsertim ad apicem pilis glandulosis instructæ et inde quasi bituminosæ.* Racemi *terminales, ebracteati, erecti.* Pedicelli *filiformes, post anthesin non incrassati.* Flores *albi aut purpurascentes, sæpe versicolores, interdum odorati.* DC. v. 2. p. 446.

*Sect.* I. *HESPERIS. Petalorum limbi* lineares, sordide ex albido flavo-purpurascentes, vespere odorati. *Siliqua valvis* carinatis subanceps, septo fungoso.

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H. *fragrans*, pedicellis villosis calyce villosissimo duplo brevioribus, petalorum laminis oblongis undulatis, foliis inferioribus petiolatis runcinato-lanceolatis obtusiusculis: superioribus subsessilibus ovatis acuminatis basi grosse dentatis.
Hesperis fragrans. *Fischer Mss.*

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*Biennial. Stem* erect, not much branched, thickly clothed with soft villous down, and longer hairs intermixed. *Leaves* runcinate, villosely hispid, roughish; *lower ones* petiolate, lanceolate, bluntish, segments or

teeth pointed, the lowermost longest; *upper ones* nearly sessile, or on very short footstalks, ovate, taper-pointed, sharply toothed at the base, and entire from about the middle. *Racemes* elongated, many-flowered, thickly clothed with long villous hairs, and smaller ones intermixed. *Bractes* none. *Pedicles* short, scarcely half the length of the calyx, villous. *Calyx* of 4 sepals, closed, 2-gibbous at the base, bearded at the point; *sepals* linearly lanceolate, slightly keeled, green, tinged with purple, villous. *Petals* 4, unguis about the length of the sepals; lamina oblong, undulate, terminating in a very short bluntish mucro, a little longer than the unguis, of a dull purple, reticulately veined. *Stamens* 6, 4 long and 2 short, enclosed in the calyx; *filaments* obliquely flattened at the base, and narrowing upwards; *anthers* sagittate. *Siliqua* villosely hispid, terminated by 2 connivent 2-lobed *Stigmas*.

Our drawing was taken from a plant communicated to us by our friend, Mr. W. Anderson, Curator of the Apothecaries' Garden, at Chelsea, where it was raised from seed sent him by Dr. Fischer, of the Royal Botanic Garden, St. Petersburgh, under the name that we have adopted; we do not find it recorded in either of the late publications of M. Decandolle, and believe it has not been before published; it is a hardy biennial, flowering the second season after being sown. It may either be sown in the open ground, or in pots; and is particularly suited for the latter, as it can then be moved into or near a room, as its agreeable fragrance is delightful of an evening, though it is quite destitute of scent during the day. It thrives well in a rich garden soil, and is only to be propagated by seeds; the young plants should be transplanted as soon as possible, or they will be likely to damp off.

1. Calyx. 2. Petal. 3. The 6 Stamens, 4 long, and 2 short. 4. The young Siliqua terminated by its 2 bilobed Stigmas.

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# HABENARIA bracteata.

## *Long-bracted Habenaria.*

*Natural Order.* ORCHIDEÆ. *Brown prodr.* 309.

Sect. I. MONANDRÆ. *Anthera* adnata subterminalis persistens. *Pollinis massæ* e lobulis angulatis elastice cohærentibus; basi affixæ. *Brown in Hort. Kew. ed.* 2. *v.* 5. *p.* 188.

*HABENARIA. Perianthium* ringens, foliolis 3. v. 5 in galea conniventibus. *Labellum* basi subtus calcaratum v. subsaccatum. *Anthera* terminalis, loculis adnatis, basibus quandoque solutis elongatis. *Massæ Pollinis* pedicellatæ, pedicellis singulis basi glandulæ respondenti nudæ insertis. *Brown prodr.* 312.

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H. *bracteata*, cornu abbreviato didymo, labello lineari retusotridentato: lateralibus obtusis; medio obsoleto, bracteis flore duplo longioribus. *Brown in Hort. Kew. ed.* 2. *v.* 5. *p.* 192.
Orchis bracteata. *Willden. sp. pl.* 4. *p.* 34. *Pursh Flor. Amer. Sept.* 2. *p.* 587.
Orchis bractealis. *Salisb. pardis.* 110.
Satyrium bracteatum. *Pers. syn.* 2. *p.* 507.

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*Perennial. Root* palmate. *Stem* about a span high, leafy, furrowed, angular. *Leaves* channelled, clasping the stem, keeled and nerved underneath, bluntish; lower ones oblong; upper ones lanceolate, more pointed. *Spikes* short, in our specimen 9-flowered. *Bractes* linearly lanceolate, channelled, bluntish, about double the length of the flowers. *Flowers* green, scentless, erect, or scarcely nodding. *Germen* channelled, twisted. *Perianthium* ringent; *three outer leaflets* ovate, obtuse, the middle one rather the shortest and narrowest; *two inner ones* narrowly lanceolate, bluntish. *Labellum* broadly linear, point slightly 3-toothed, the teeth blunt, and the middle one shortest. *Spur* or

*pouch* at the base of the Labellum, short and inflated, 2-lobed, of a transparent flesh-colour. *Anther* joined to the point of the stigma; *lobes* diverging, and opening in front for the exclusion of the *Pollen masses*, which are pedicled and attached at the base.

This curious plant was imported from North America last Winter, and was procured for Mr. Colvill, with several other Orchideous plants from the same country, by Mr. George Charlwood. It thrives well with us at present in a pot of red sandy loam, and we are in hopes that it will ripen its seeds. The seeds of the different species of Orchideæ have been generally supposed to be very difficult to make grow, but we have succeeded well in raising some of them, and have no doubt but the whole might be raised in the same way; we have now a pot of seedlings of *Cymbidium ensifolium* thriving very well, and we managed them in the following manner: in October last, we filled a pot with peat earth, within half an inch of the brim, we then planted it all over with small turfs of very short moss, on the moss we scattered our seeds, and washed them in between the blades with watering them; we then placed them in the hothouse, and managed them in the same manner as any other common seeds, watering them occasionally when dry; the moss continued to grow, and the latter end of April the young plants began to make their appearance, and others still continue to show themselves. If sown in any other way, we think them not so likely to succeed, the seed being so very small, that they will soon lose their vegetating quality.

1. Germen. 2. The 5 leaflets of the Perianthium. 3. Labellum, showing its 3 short blunt teeth. 4. Spur or Pouch. 5. Anther, showing its diverging lobes, each burst, showing the pedicled Pollen masses attached to the base, and freed from the Anther, all magnified.

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# SCHIZANTHUS pinnatus.

## *Winged-leaved Schizanthus.*

*Natural Order.* SCROPHULARINÆ. *Brown prodr.* 433.

*Sect.* I. Stamina duo antherifera. Capsula bilocularis.

*SCHIZANTHUS. Corolla* irregularis: labio superiore quinquefido; inferiore tripartito. *Stamina* 2 antherifera: 2 sterilia; filamentis villosis. *Capsula* bilocularis.

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S. *pinnatus,* foliis interrupte pinnatis: inferioribus bipinnatis, floribus paniculatis: racemis secundis.

Schizanthus pinnatus. *Flor. peruv.* 1. *p.* 13 *t.* 17. *Pers. syn.* 2. *p.* 161. *Botan. regist.* 725. *Botan. magaz.* 2404. *Hooker exot. flor.* 73.

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*Annual. Stem* from 2 to 3 feet high, erect, much branched; *branches* slender, thickly clothed with soft villous glandular hairs, and terminated with a panicle of flowers. *Leaves* interruptedly pinnate, more or less hairy; lower ones bipinnate with smaller leaflets intermixed; leaflets oblong, very blunt, more or less toothed with blunt rounded teeth; upper leaves pinnatifid, those near the flowers entire, oblong, obtuse, more sharply toothed, very hairy. *Flowers* in panicles, or compound secund racemes, terminating the stem, varying in colour on different plants. *Bractes* 2, at the base of the pedicle, one double the size of the other, oblong, obtuse, very hairy. *Pedicles* slender, nodding. *Calyx* 5-parted, segments unequal, oblong, obtuse, fringed. *Corolla* irregular; upper lip 5-cleft, side laciniæ forked, those again notched, the upper one entire, or slightly emarginate; lower lip 3-parted, outer laciniæ falcate, bending towards each other, their points truncate, middle one concave, connivent, enclosing the stamens, which are elastic, and spring

towards the stigma as soon as touched. *Stamens* 4, inserted in the mouth, 2 barren, and 2 bearing anthers; *sterile filaments* short, very villous; *fertile ones* longer, slightly hairy, and elastic, springing upwards as soon as touched; *anthers* attached to the filament, a little above their base, 2-celled, discharging their pollen by the spring of the filament. *Pollen* ash-coloured. *Germen* smooth. *Style* smooth, purple. *Stigma* a simple point.

This very beautiful annual plant is a great acquisition to our gardens, where it has been lately introduced. Seeds of it were first brought to this country by Lady Cochrane, and they have now found their way into many collections; the plant from which our drawing was made, was presented to Mr. Colvill, by the late J. Walker, Esq. of Arno's Grove, Southgate, who raised it from seed; we find it succeeds well in the open air, where it makes a grand appearance, and continues in full bloom for a considerable time; our plants grew to the height of 3 feet, branching out in an elegant manner, and ripened their seeds. Cuttings of them were taken off in September, and planted under hand-glasses in the open ground, where they soon rooted; we then planted them in small pots, and preserved them in the greenhouse through the Winter; in March they began to flower, and are now covered with flowers and seeds.

Seeds sown in pots early in Spring, and placed in a greenhouse, or frame, will flower much earlier than those sown in the open ground; a rich light soil suits them best, and a sheltered situation, as their tender shoots are apt to be broken by rough winds if they are too much exposed.

1. Calyx. 2. The lower lip of the Corolla divided from the upper, to show the insertion of the 2 fertile Stamens. 3. The upper lip, showing the 2 barren Stamens. 4. Fertile Stamen detached. 5. Barren ditto. 6. Capsule nearly ripe. 7. Style and Stigma.

E Dalton Smith del

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A Bailey sculp

# RENEALMIA grandiflora.

## *Largest-flowered Renealmia.*

*Natural Order.* IRIDEÆ. *Brown prodr.* 302.

*RENEALMIA. Perianthium* 6-partitum, regulare; foliolis interioribus majoribus, basi angustatis. *Filamenta* infrà connata v. distincta, suprà patentia. *Stigmata* 3, involuta-filiformia, acuta. *Capsula* obovato-clavata. *Semina* angulata. *Inflorescentia* subpaniculata, fasciculorum spathis abbreviatis.

Herbæ *sylvicolæ, glabræ.* Radix *fibrosa, nunc e rhizomate.* Folia *graminea, laxa, nervosa.* Caulis *teretiusculus quandoque divisus.* Fasciculi *alterni, umbellati, spathis persistentibus.* Perianthium *album, patulum, citò deciduum;* foliolis exterioribus *extùs sæpiùs virescentibus;* interioribus *sæpè unguiculatis.* Capsula *membranacea.* Semina *biseriata, atra.* Brown prodr. ADDENDA. p. 591.

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R. *grandiflora,* caule paniculato, foliis (10-18-unc.) nervosis margine scabriusculis, perianthii foliolis exterioribus ovali-oblongis: interioribus 3-plo majoribus obovato-oblongis subunguiculatis, filamentis basi connatis.

Renealmia grandiflora. *Brown prodr.* ADDENDA *in* OBS.

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*Perennial. Stem* short, much branched at the base. *Leaves* fan-like or distichous, sheathing at the base, narrowly sword-shaped, taper-pointed, roughish on the edges, many-nerved, of a lively green edged with a yellowish-brown, from 10 to 18 inches in length; sheaths membranaceous, of a brownish orange colour. *Scape* erect, scarcely as long as the leaves, nearly cylindrical or slightly flattened, smooth, of a purplish colour. *Flowers* white, panicled. *Sheaths* leaf-like, lower one longer than the pedicles, upper ones shorter. *Pedicles* cylindrical, gradually thickening upwards, of a purplish colour, with a small membranaceous bracte attached near the base. *Germen* bluntly trigonal, uneven. *Perianthium* 6-parted, seated on the germen; outer leaflets oval or oblong, bearded at the

point, white with a purple keel down the back; inner leaflets obovately-oblong, slightly emarginate, narrowed at the base, 3 or 4 times larger than the outer ones. *Stamens* 3; *filaments* slightly connected at the base, flat, tapering upwards; *anthers* sagittate, 2-celled. *Style* short, smooth. *Stigmas* 3, flat, tapering to a point.

The present subject is a native of New Zealand, where seeds of it were collected by Mr. John Richardson, who disposed of them and numerous other seeds of new and very rare plants from that country and New Holland, to Mr. Colvill, and plants raised from them are now in Mr. C.'s collection; many of which have flowered. There are now in flower *Boronia serrulata*, a new species of *Podolobium*, and a beautiful new plant from King George's Sound, we believe a new species of *Callistachys*. Many other interesting plants from the same collection we expect to see flower this season, which, we presume, will still vex Billy Aiton, and his staunch radical friend old Cobbett!!

Several plants of the present species were planted out in the open ground last Spring, where they have remained to the present time, and have received no injury from the Winter, but are growing as freely as those that have been protected in a greenhouse; the one from which our drawing was taken, flowered in April, but from the appearance of the plant we suspect it will bloom at various seasons. It grows freely in a rich light soil, and may be increased by dividing at the root, or by seeds.

Mr. Brown was so obliging as to favour us with a sight of a drawing from a native specimen; in this the plant was much stronger, the flowers larger, and the panicle 4 times the size of ours, so that it will become a handsome plant when of larger growth.

1. Outer leaflet of the Perianthium, showing its fringed point. 2. Inner ditto, showing its narrow base. 3. The 3 Stamens spread open, showing their slight connection at the base. 4. Style terminated by 3 flat spreading Stigmas.

E. Dalton Fruith del. Pub. by R. Sweet Chelsea July 1. 1824. A. Bailey sculp.

# ORCHIS spectabilis.

## *Showy American Orchis.*

*Natural Order.* ORCHIDEÆ. *Brown prodr.* 309.

Sect. I. MONANDRÆ. *Anthera* adnata subterminalis persistens. *Pollinis massæ* e lobulis angulatis elastice cohærentibus: basi affixæ. *Brown in Hort. Kew. ed.* 2. *v.* 5. *p.* 188.

*ORCHIS. Perianthium* ringens. *Labellum* basi subtus calcaratum. *Glandulæ* (1-2) pedicellorum pollinis inclusæ cucullo unico. *Brown.*

O. *spectabilis*, labello obovato indiviso crenulato retuso, foliolis perianthii conniventibus rectis: lateralibus longioribus, cornu clavato longitudine germinis, bracteis flore longioribus, scapo acute 5-angulo subaphyllo.

Orchis spectabilis. *Willden. sp. pl.* 4. *p.* 36. *Pers. syn.* 2. *p.* 506. *Pursh. fl. amer. sept.* 2. *p.* 587. *Nuttall gen. amer.* 2. *p.* 189. *Lodd. bot. cab.* 78.

Orchis humilis. *Mich. flor. amer.* 2. *p.* 155. *Pers. syn.* 2. *p.* 506.

*Root*, in our plant, fasciculate, (palmate, *according to Nuttall.*) *Leaves* 2, large, roundly oval, reticulately veined underneath, smooth and shining above. *Scape* acutely 5-sided, leafless, (sometimes producing a leaf, *Nuttall.*) few-flowered. *Bractes* large, leaf-like, lanceolate, obtuse, overtopping the flowers. *Flowers* large, violet-scented, all facing one side. *Germen* angular, slightly twisted, bent towards the flower. *Leaflets of the Perianthium* connivent and adhering, of a light purple on the outside, and darker within; side ones rather the longest. *Labellum* white, or slightly tinged with blush, broadly ovate, crenulate,

slightly retuse. *Spur* compressed, blunt, or club-shaped at the point, about the length of the germen. *Stamen* attached to the point of the stigma, the 2 lobes diverging. *Pollen masses* pedicled, and covered with a hood.

Our drawing of this rare and handsome plant, was made at the Nursery of Mr. Colvill; it had been lately imported from North America, and was procured for Mr. C. by Mr. George Charlwood. The plants were potted in a very sandy red loam, where they flowered strong, and are appearing to thrive very well, and we have little doubt but the whole of the Orchideous plants might be managed as well as any others, by proper attention; many of them, we think, would succeed well in a frame, or pit, and to be covered occasionally with glass, particularly when the weather was very wet, as moisture is much more injurious to them than cold; the soil should be prepared for them according to the different species; the greater number succeeds best in light sandy loam, a few species prefer peat, and many are fond of a chalky soil, which could be imitated by pounding or grinding chalk, and mixing it with the other mould; the bed should be made a little sloping, that the wet may pass more readily off. Some of the sorts that prefer chalky hills, might be planted on a little mount made of chalk, and covered with sandy loam mixed with powdered chalk; in such a situation, we believe many of them would thrive well.

1. Part of the Flower-stem, to show the 5 angles. 2. Germen. 3. The 3 outer leaflets of the Perianthium. 4. The 2 inner leaflets. 5. Labellum. 6. Spur. 7. Anther, showing its diverging lobes covered with a hood. 8. The same divested of the hood, showing its pedicled pollen masses attached to 2 little glands at the base.

E Dalton Smith del  Pub by R Sweet Chelsea July 1 1824.  A Bailey sculp

# WULFENIA carinthiaca.

## *Carinthian Wulfenia.*

*Natural Order.* SCROPHULARINÆ. *Brown prodr.* 433.
*Sect.* I. Stamina duo antherifera. *Capsula* bilocularis.
*WULFENIA. Calyx* 5-partitus. *Corolla* ringens: labio superiore brevi integro; inferiore 3-partito, fauce barbata. *Capsula* 2-locularis. Folia *radicalia obovata obtusa.* Flores *pedunculati, secundi, cærulei.*

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Wulfenia carinthiaca. *Jacq. miscell.* 2. *p.* 62. *t.* 8. *f.* 1. *Icon. rar.* 1. *t.* 2. *Pers. syn.* 1. *p.* 14. *Willd. enum.* 1. *p.* 24. *Rœm. et Schult.* 1. 177. *Link enum.* 1. *p.* 27. *Hort. sub. lond. Addenda.*
Pæderota Wulfenia. *Lamarck encycl. t.* 13. *f.* 2.

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*Perennial. Leaves* radical, tufted, spreading flat on the ground, younger ones erect, obovate, obtuse, slender at the base, notched with rounded blunt crenatures, which are again slightly notched. *Scape* erect, smooth, leafy; the leaves small, sessile, clasping the stem, acute, margins bent backwards. *Spike* at first nodding, afterwards becoming erect, and growing to a considerable length. *Flowers* of a bright blue, leaning to one side. *Pedicles* short. *Calyx* 5-parted; laciniæ unequal, lanceolate, acute. *Corolla* ringent; upper lip short, entire, slightly crenulate; lower lip 3-parted, densely bearded in the mouth, segments rounded, with a small point, side ones largest. *Stamens* 2, inserted in the tube, and included within the mouth: *filaments* smooth; *anthers* incum-

bent; *pollen* ash-coloured. *Style* smooth, exserted. *Stigma* capitate.

For the opportunity of giving a figure of this rare plant, we are obliged to A. B. Lambert, Esq. who sent us a fine plant of it in full bloom, that had been grown at his seat at Boyton. Large plants of it make a handsome appearance, when covered with numerous spikes of beautiful blue flowers, which last a considerable time. Our drawing was taken about the middle of April, and other spikes continued to flower till near the end of May. It succeeds well in a rich loamy soil in a sheltered situation, and may be increased by dividing at the root, or by seeds.

**1. Calyx. 2. Corolla spread open, to show its bearded mouth, and the insertion of the stamens. 3. Germen, Style, and Stigma.**

E Dalton Smith del  Pub by R Sweet Chelsea July 1 1824  A Bailey sculp

# PEDICULARIS canadensis.

## *Canadian Pedicularis.*

***Natural Order.*** SCROPHULARINÆ. ***Brown prodr.*** 433.
Sect. II. Stamina 4 antherifera.
***PEDICULARIS.*** *Calyx* 5-fidus. *Corolla* ringens. *Capsula* bilocularis, mucronata, obliqua. *Semina* tunicata. Folia *opposita aut alterna, simplicia aut sæpiùs pinnata; flores oppositi aut alterni, bracteati, spicati terminales.*

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P. *canadensis*, caule simplici, foliis pinnatifidis inciso-dentatis, capitulo basi folioso hirsuto, corollis galea setaceo-bidentata, calycibus deorsum truncatis. ***Pursh fl. amer.*** 2. *p.* 425.
Pedicularis canadensis. ***Willden. sp. pl.*** 3. *p.* 211. ***Pers. syn.*** 2. *p.* 153.

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***Perennial.*** ***Stems*** several from the same plant, erect, simple, of a purplish colour, thickly clothed with soft white hairs, particularly on the upper part. ***Leaves*** alternate, lanceolate, pinnatifid, hairy: segments on the lower ones incised, or deeply toothed with bluntish rounded segments or teeth, which are again toothed; upper leaves more shallowly and sharper toothed with numerous small teeth. ***Petioles*** deeply channelled on the upper side, and rounded on the lower, hairy. ***Flowers*** in a short spike, or head, pale yellow, tinged with purple. ***Bractes*** leaf-like, toothed, villous at the base, the upper ones shortest. ***Calyx*** inflated, truncate downwards, emarginate, angular, villous. ***Corolla*** ringent: helmet flat, toothed

near the point with 2 sharp setiform teeth; lower lip 3-lobed, side lobes ovate-rounded, erect, the middle one reflexed. *Stamens* 4, inserted in the tube, 2 rather longer than the others; the 2 longest *filaments* are hairy, the others smooth. *Style* smooth, exserted, terminated with a small capitate stigma.

A native of North America, from whence plants of it were received last Autumn, by Mr. Colvill, from one of which our drawing was made the beginning of May. We planted them in a mixture of sandy loam and peat, principally the latter; and they are now in a flourishing state, and appear likely to increase at the root. Pursh mentions it as growing in woods and meadows, from Canada to Carolina; and it appears to us to be fond of moisture, and to prefer a shady situation.

1. Calyx. 2. Corolla spread open, to show the insertion of the stamens, and the 2 teeth on the upper part of the helmet. 3. Back view of the lower lip, showing the reflexed middle lobe. 4. Stamen detached, showing the hairy filament. 5. Germen, Style, and Stigma.

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# IRIS verna.

## *Vernal American Iris.*

*Natural Order.* IRIDEÆ. *Brown prodr.* 302.

*IRIS. Perianthium* 6-partitum magnum: laciniis 3 alternis rectis; 3 alternis reflexis intùs barbatis aut imberbibus basi staminiferis. *Stylus* brevis; *stigmata* 3 petaloidea, oblonga, magna, staminibus incumbentia, sulco longitudinali nectarifero marginato suprà exarata.

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I. *verna*, imberbis, acaulis, uniflora, foliis lineari-ensiformibus rigidis acutis glaucescentibus, perianthii laciniis subæqualibus, capsulis obsolete trigonis.

Iris verna. *Mich. fl. amer.* 1. *p.* 22. *Willden. sp. pl.* 1. *p.* 235. *Pers. syn.* 1. *p.* 53.

Iris verna? *Nutt. gen. amer.* 1. *p.* 23.

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*Roots* scarcely tuberous, creeping, reddish. *Leaves* radical, linearly-ensiform, rigidly coriaceous, acute, margined, slightly glaucous, tinged with red at the base; in our plant, a foot in length. *Scape* 1-flowered, sessile, or nearly so, sheathed at the base with short leaf-like bractes. *Germen* attenuated, slightly triquetrous. *Tube of the Perianthium* slightly but bluntly triangular, about 2 inches long; *laciniæ* jointed on the tube, inner and outer divisions nearly equal, with long slender ungues, oblong-obovate, of a beautiful bright blue, the 3 exterior marked with an oblong orange-yellow stripe, edged and spotted with black, and having a central slightly raised, scarcely villous line; inner ones of one colour, at first connivent, afterwards spreading flat like the outer ones. *Stamens* 3, inserted

in the base of the laciniæ, at the summit of the tube. *Style* short. *Stigmas* 3, petal-like, linearly-oblong, deeply bifid and toothed at the edges, keeled inwards.

We think there can scarcely be any doubt but the present subject is the real I. *verna*, which has been so long a desideratum in our collections; it is certainly Mr. Nuttall's plant, though he describes the roots as tuberous, which ours scarcely is, but is more of a creeping nature. I. *verna* of Pursh is probably a different plant, though his description agrees pretty well with the present, except in the capsule being subrotund, which in ours is bluntly 3-sided; the colour of the flowers is also said to be light blue, striped with purple; Mr. Colvill received plants of the present species, last Autumn, from North America, with some others, one of which is said to be the I. *tridentata* of Pursh, but it has not yet flowered.

In our opinion, the present species is by far the most beautiful of all the dwarf sorts, and appears to grow as freely as any of them, when planted in a rich light soil, flowering the beginning of May; it also possesses a considerable degree of fragrance, and may be increased by dividing at the root.

**1. Peduncle. 2. Germen. 3. Tube of the Perianthium. 4. One of the outer laciniæ of ditto, showing the insertion of the stamen at its base. 5. The 3 Stamens. 6. Back view of the Stigma.**

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